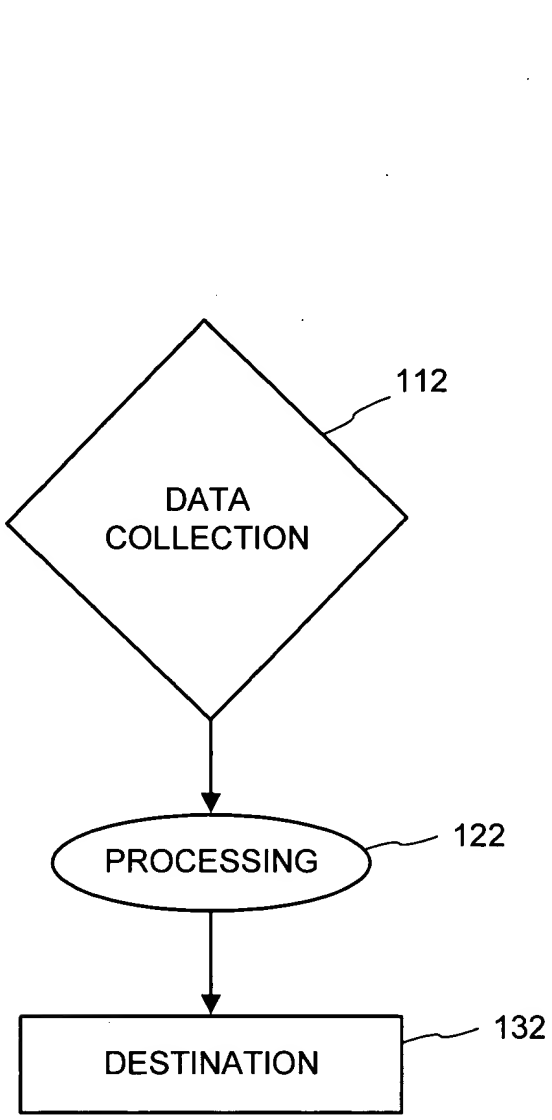
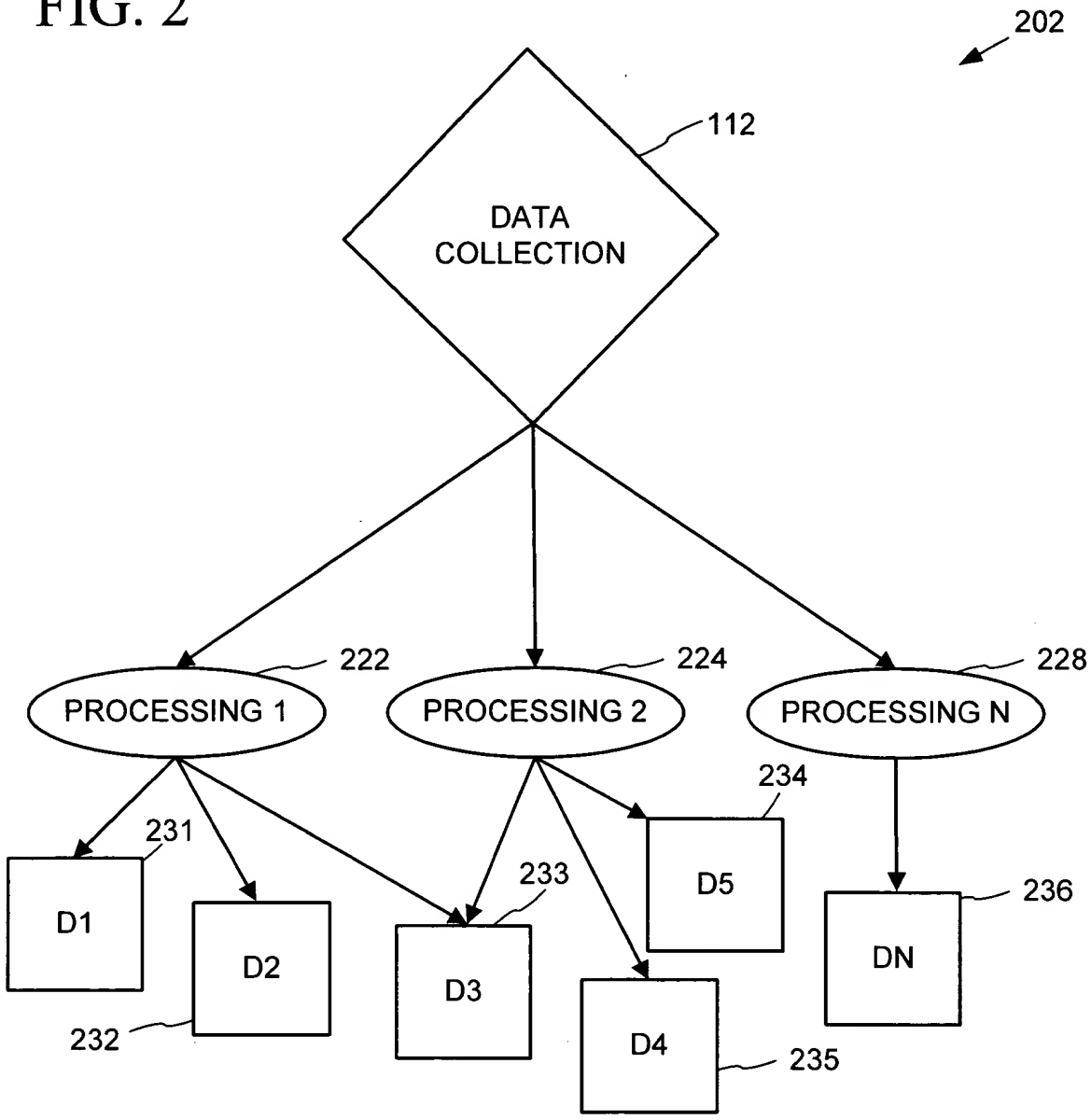
FIG. 1



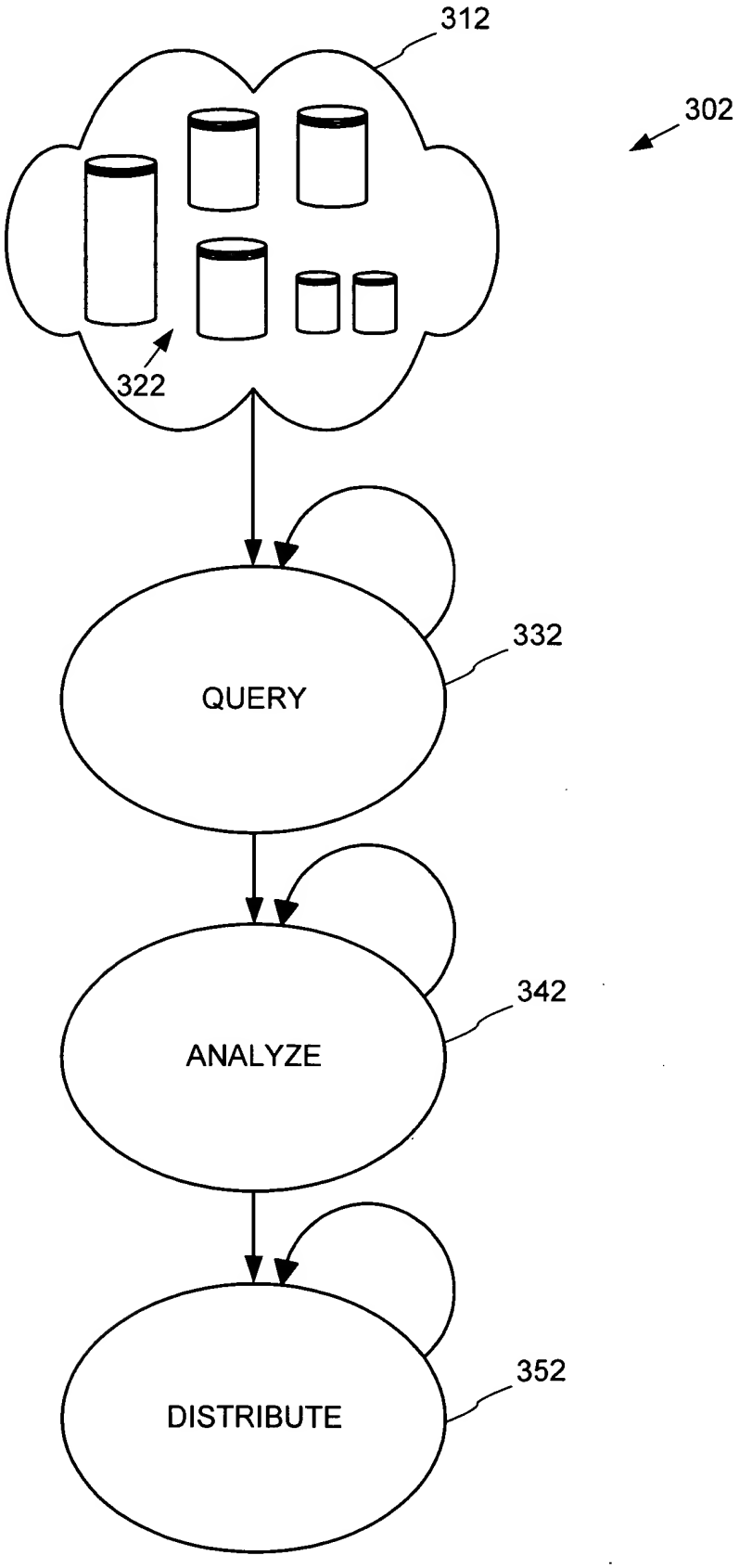
09025808.060502

FIG. 2



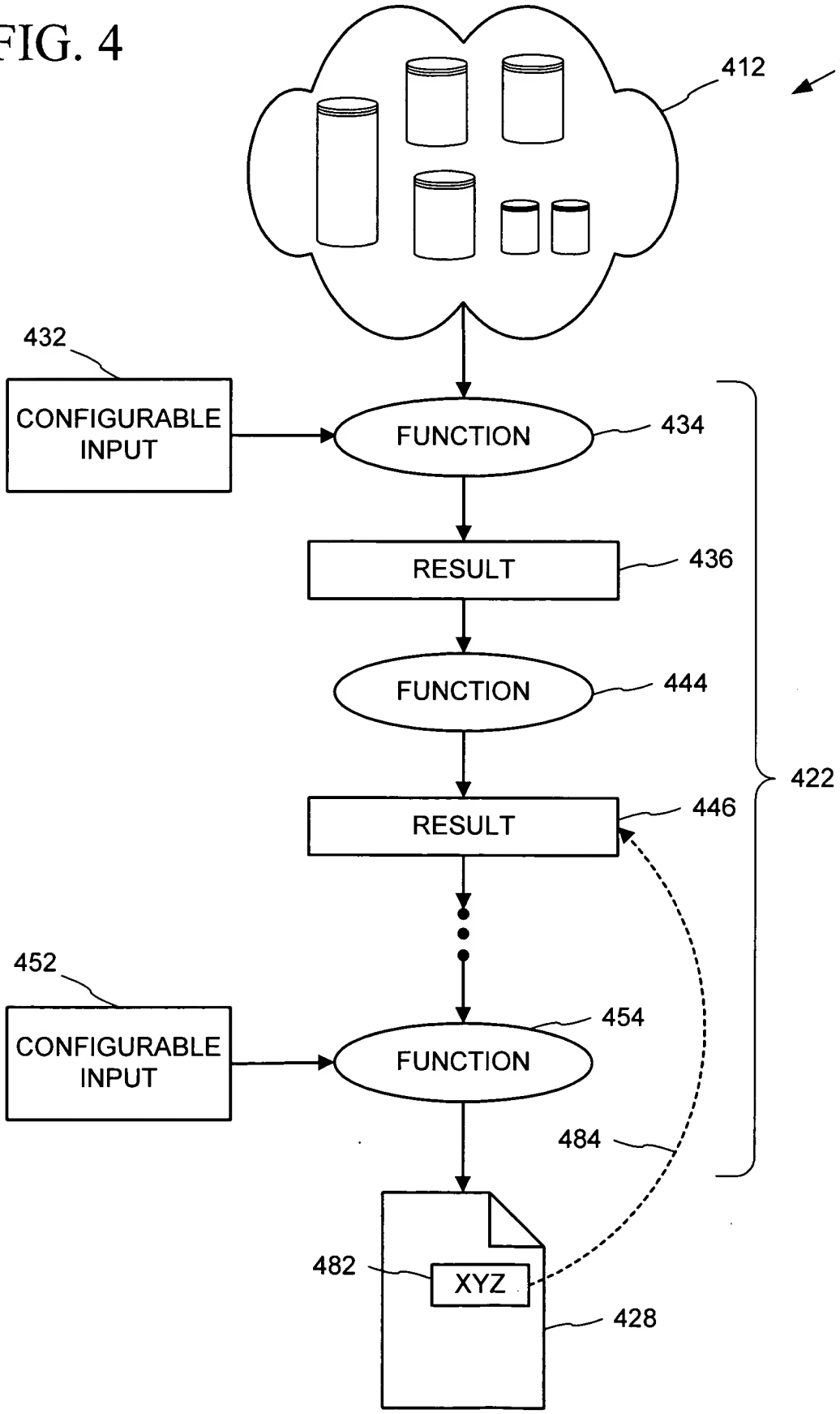
Express Mail No. EL754021250US

FIG. 3



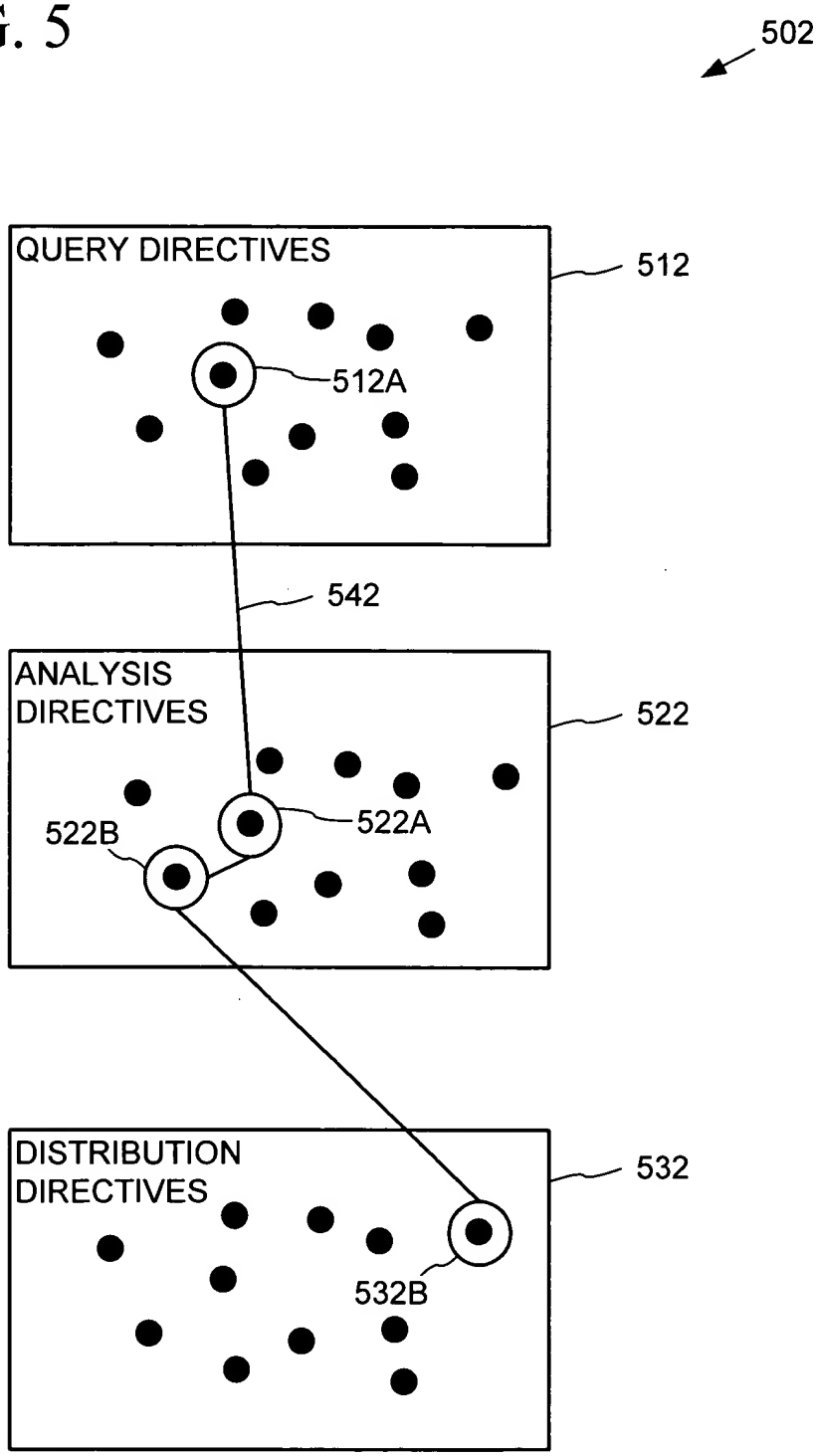
EL754021250US

FIG. 4



Express Mail No. EL754021250US

FIG. 5



EL754021250US

FIG. 6

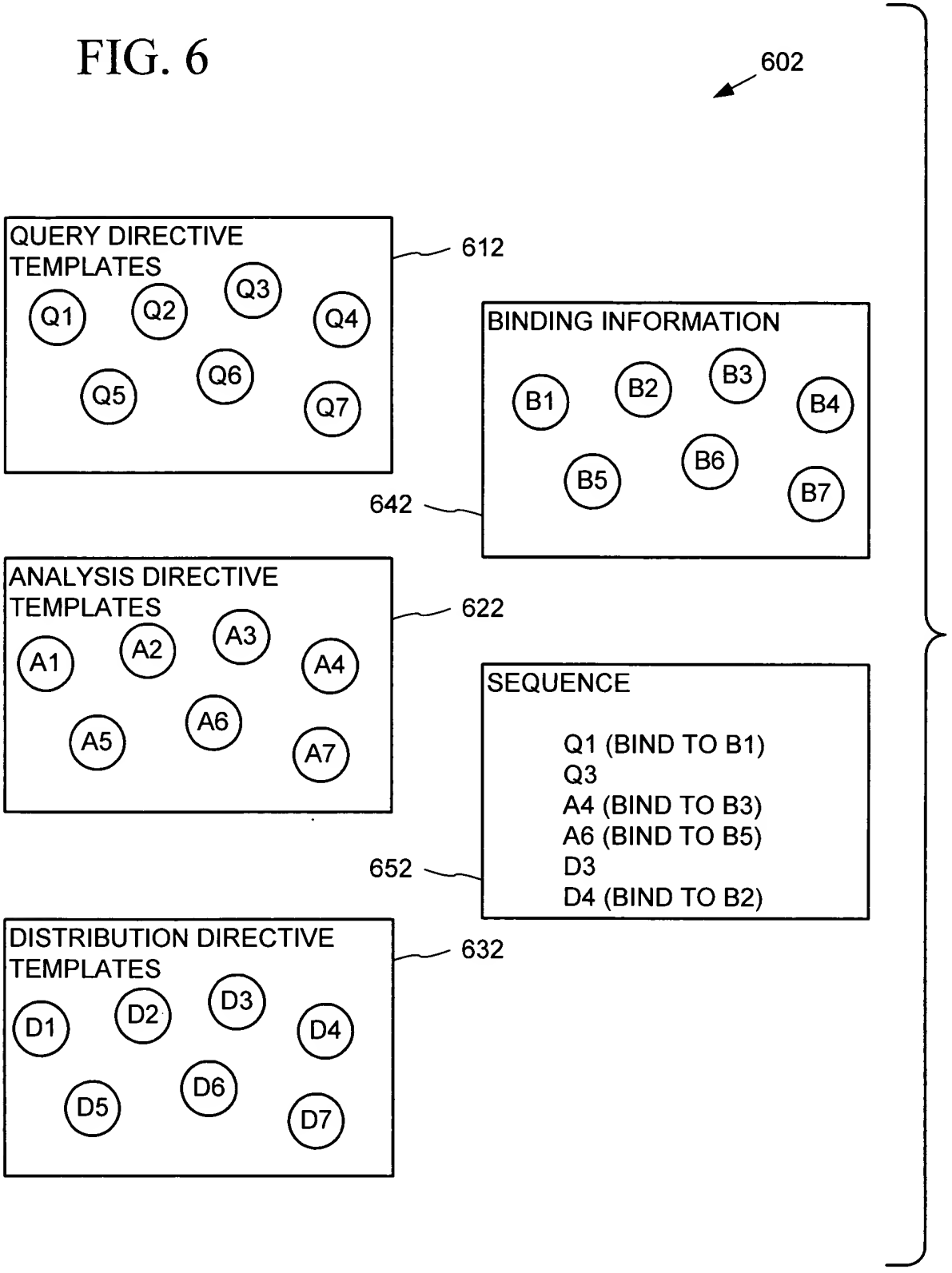

602
QUERY DIRECTIVE TEMPLATES
612
Q1
Q2
Q3
Q4
Q5
Q6
Q7
BINDING INFORMATION
642
B1
B2
B3
B4
B5
B6
B7
ANALYSIS DIRECTIVE TEMPLATES
622
A1
A2
A3
A4
A5
A6
A7
SEQUENCE
652
Q1 (BIND TO B1)
Q3
A4 (BIND TO B3)
A6 (BIND TO B5)
D3
D4 (BIND TO B2)
DISTRIBUTION DIRECTIVE TEMPLATES
632
D1
D2
D3
D4
D5
D6
D7

FIG. 7

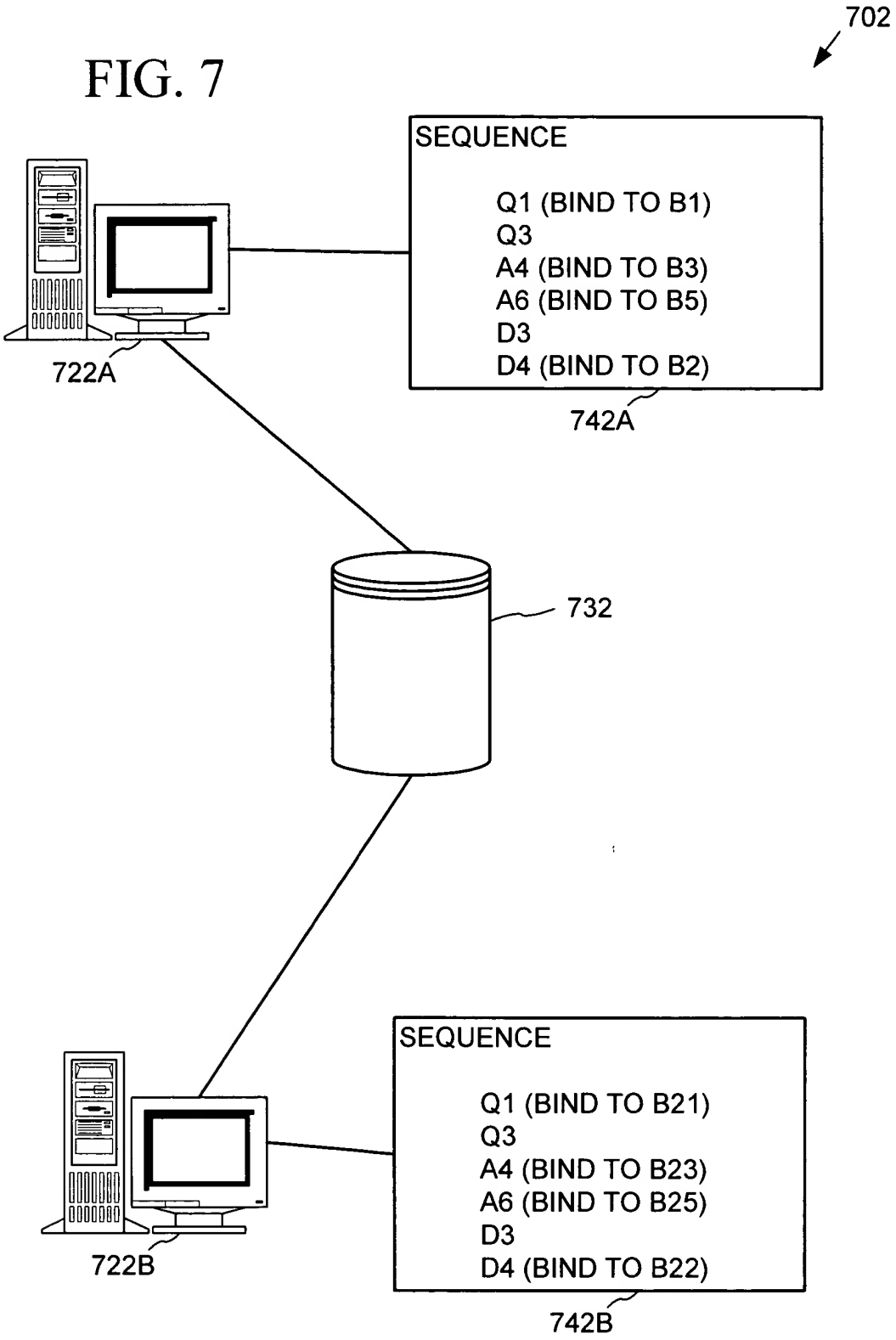

702
SEQUENCE
Q1 (BIND TO B1)
Q3
A4 (BIND TO B3)
A6 (BIND TO B5)
D3
D4 (BIND TO B2)
742A
722A
732
SEQUENCE
Q1 (BIND TO B21)
Q3
A4 (BIND TO B23)
A6 (BIND TO B25)
D3
D4 (BIND TO B22)
742B
722B

FIG. 8

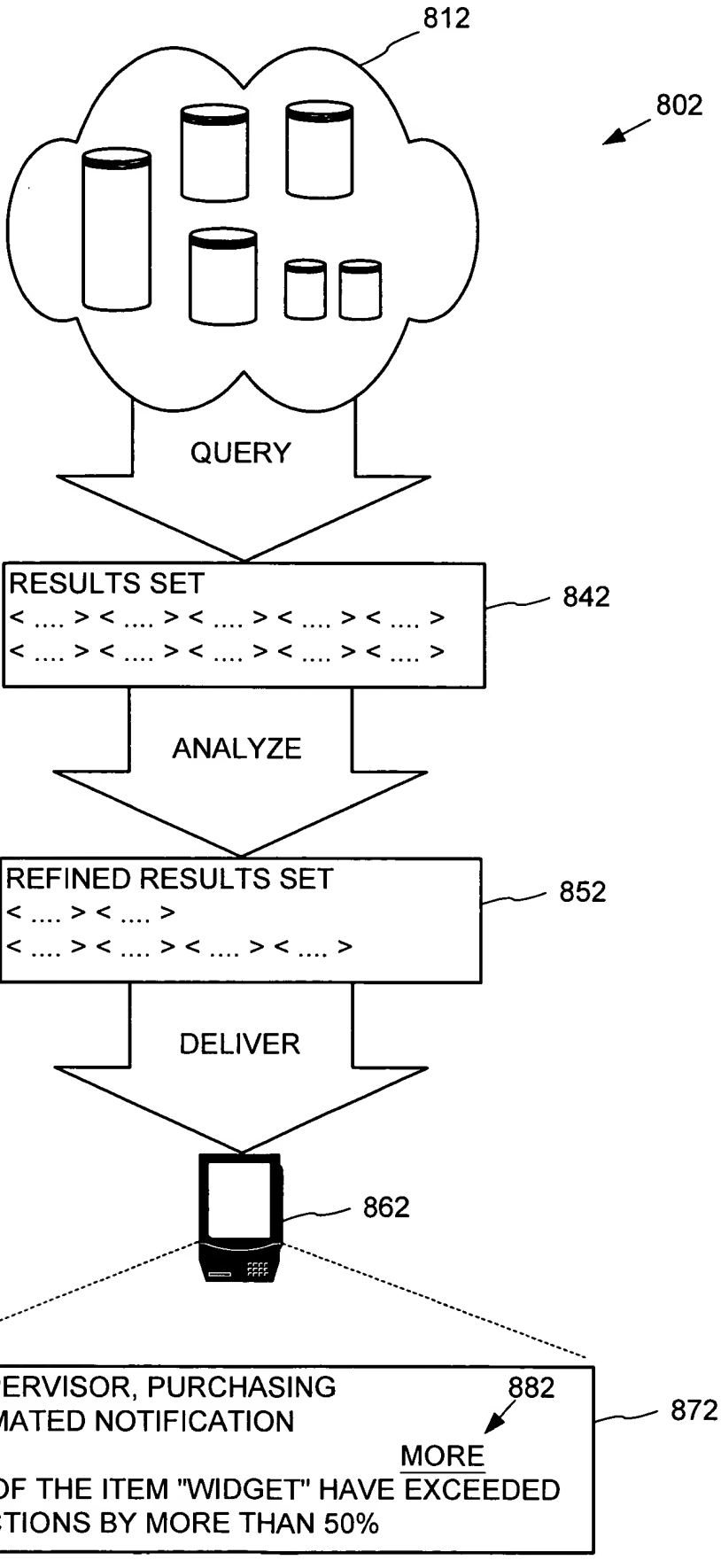

812
802
QUERY
RESULTS SET
< .... > < .... > < .... > < .... > < .... >
< .... > < .... > < .... > < .... > < .... >
842
ANALYZE
REFINED RESULTS SET
< .... > < .... >
< .... > < .... > < .... > < .... >
852
DELIVER
862
TO: SUPERVISOR, PURCHASING
* AUTOMATED NOTIFICATION
Q3 2000
SALES OF THE ITEM "WIDGET" HAVE EXCEEDED PROJECTIONS BY MORE THAN 50%
882
MORE
872

FIG. 9

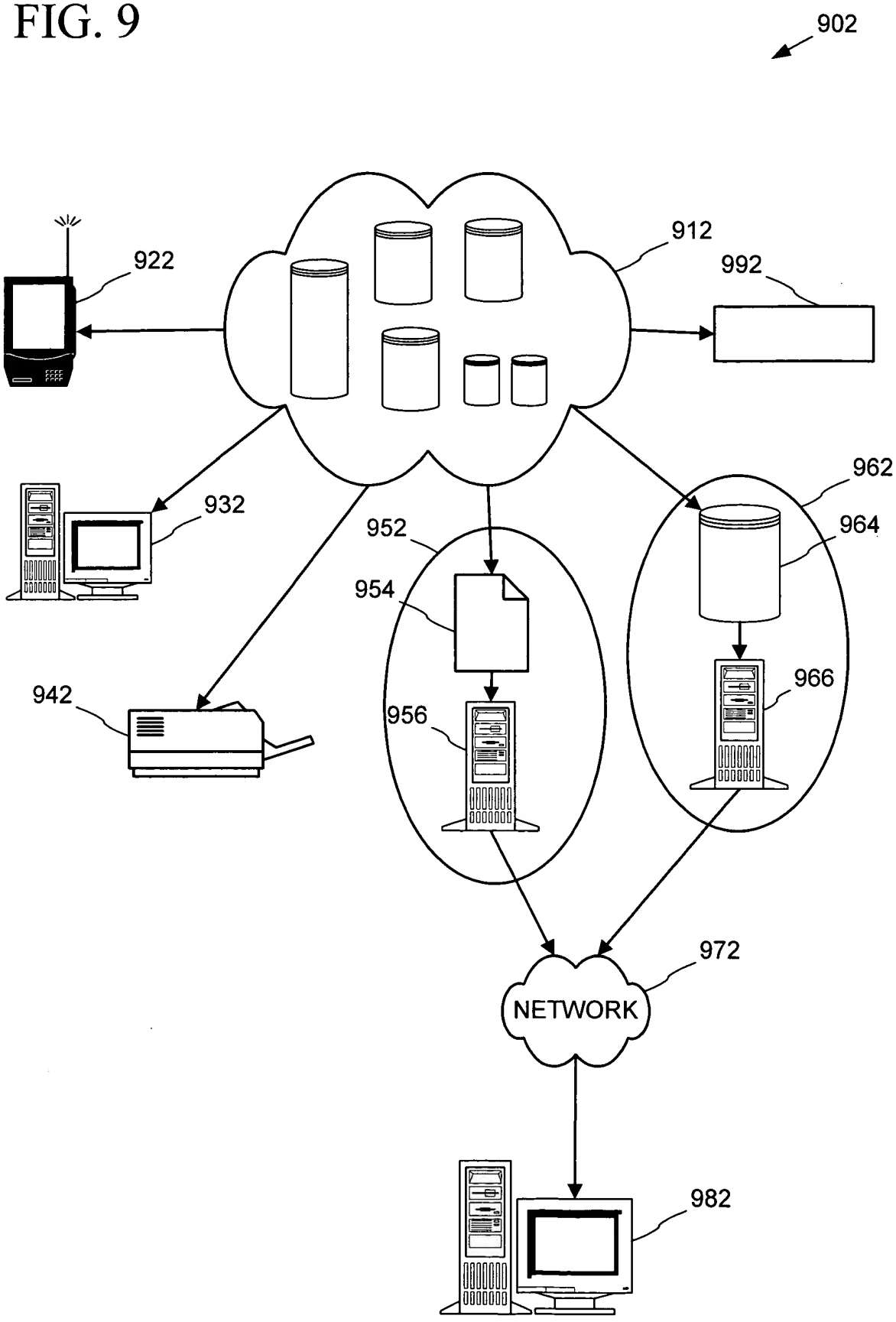
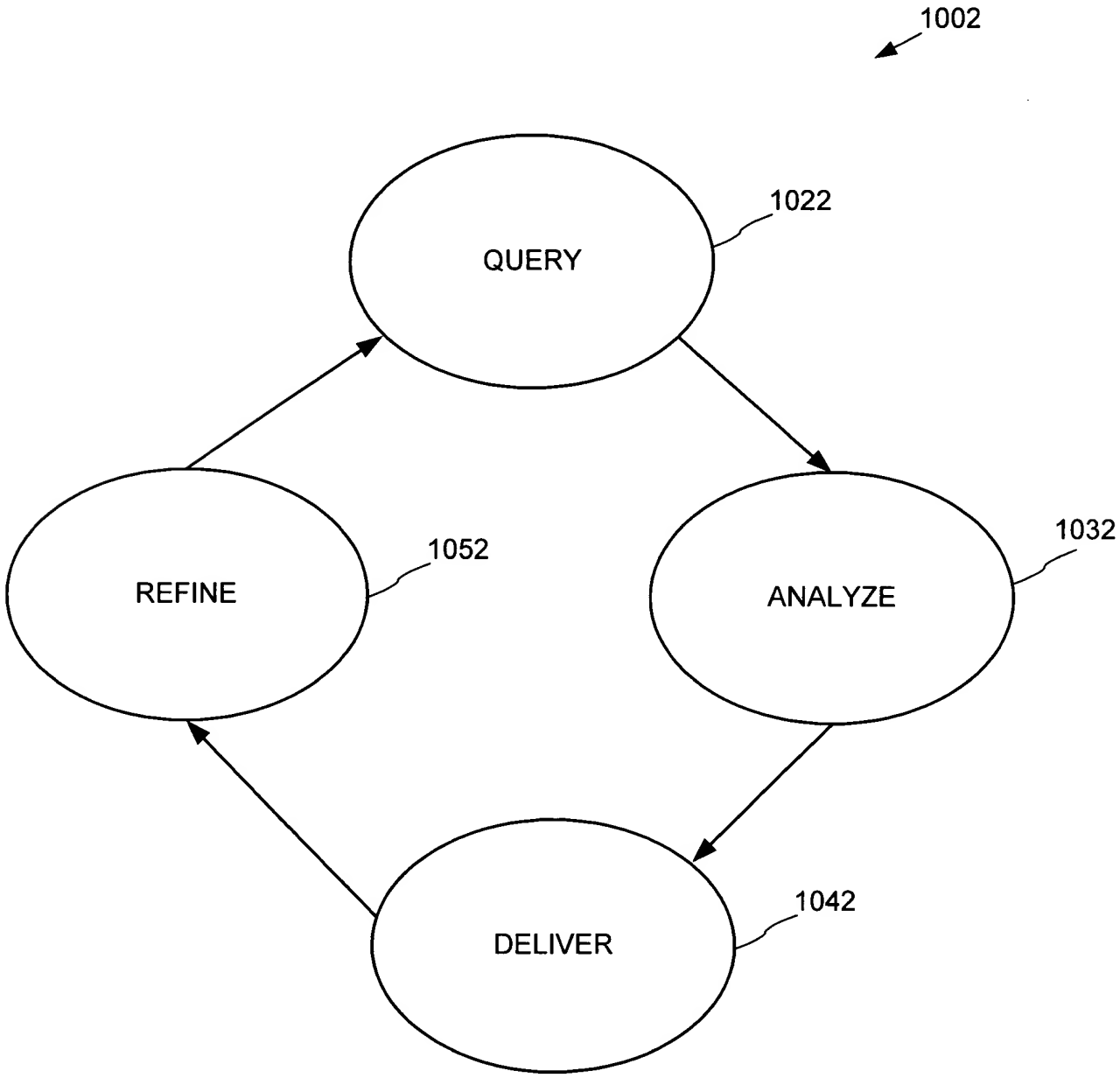


FIG. 10



Express Mail No. EL754021250US

FIG. 11

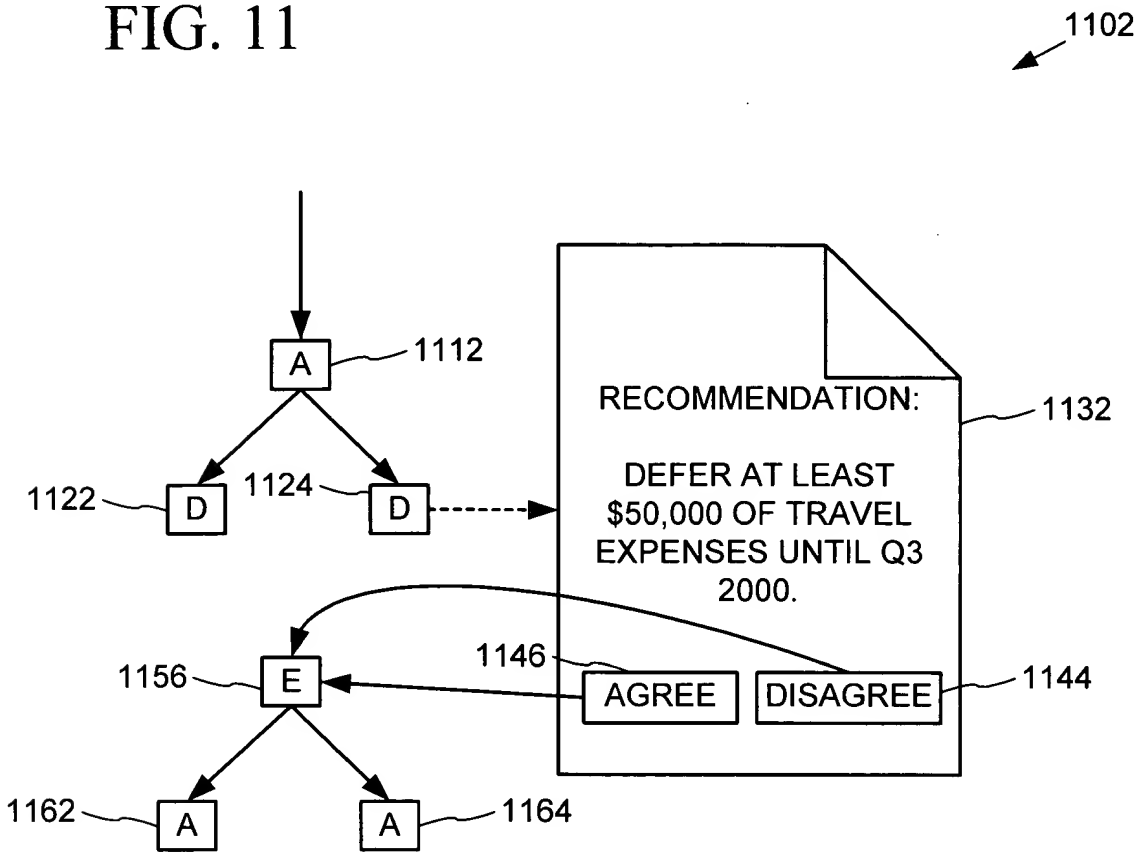

1102
A
1112
D
1122
D
1124
RECOMMENDATION:
DEFER AT LEAST $50,000 OF TRAVEL EXPENSES UNTIL Q3 2000.
1132
E
1156
1146
AGREE
DISAGREE
1144
A
1162
A
1164

FIG. 12A

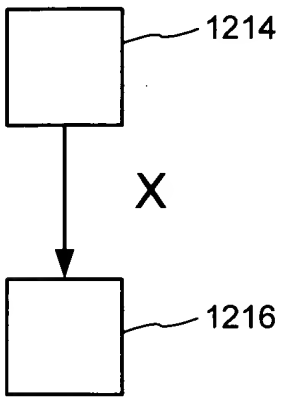


FIG. 12B

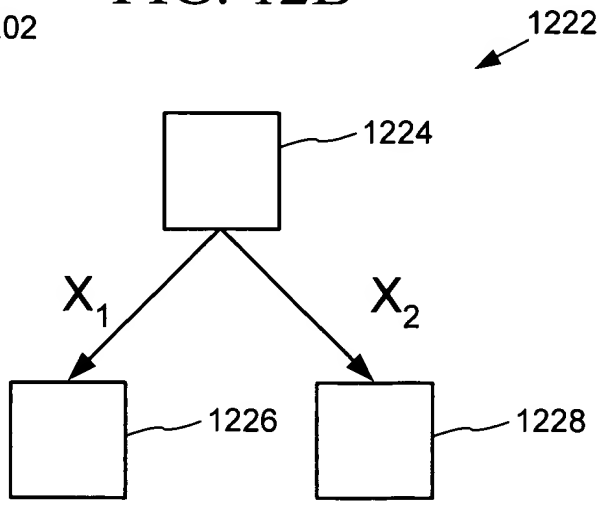


FIG. 12C

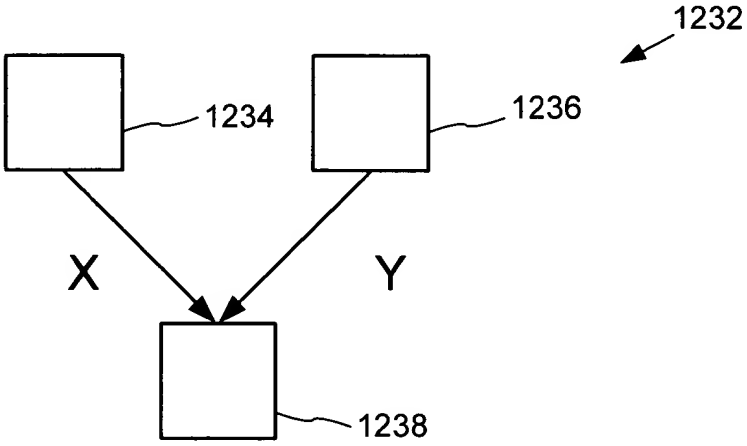


FIG. 12D

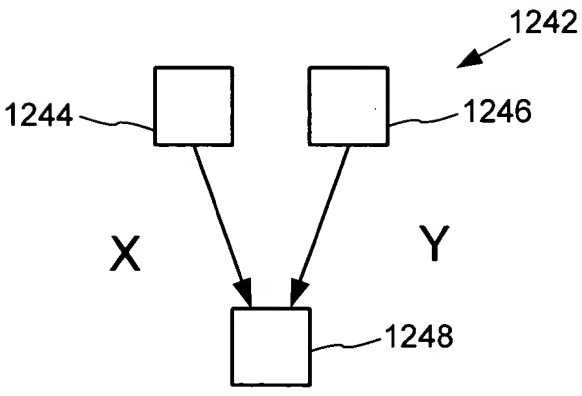


FIG. 12E

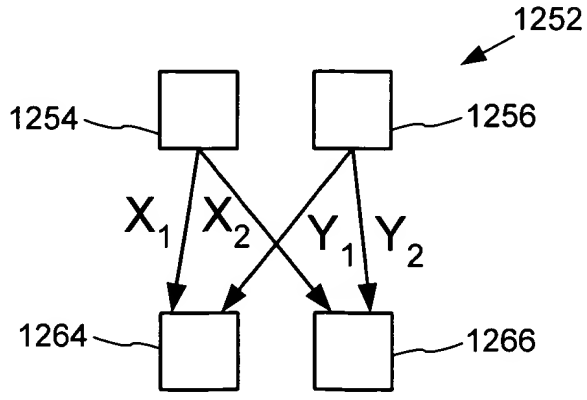


FIG. 13

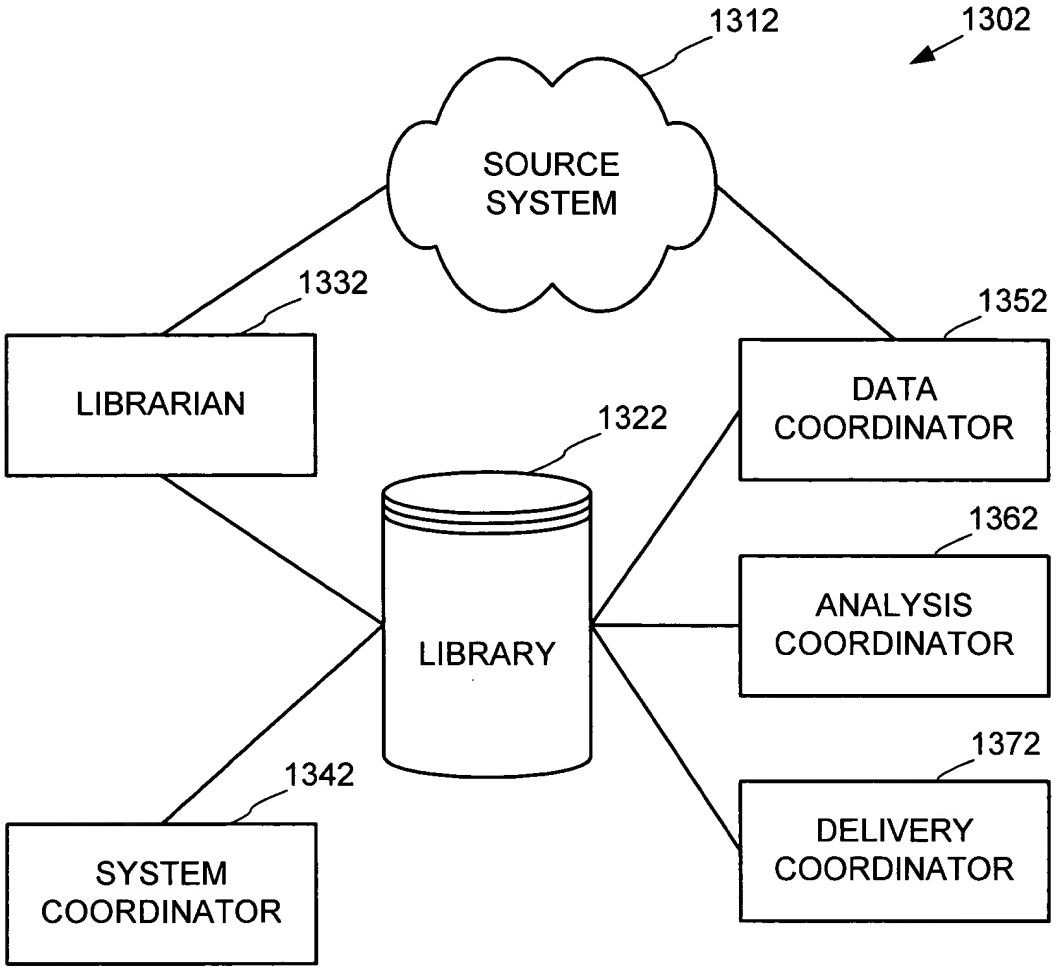

1312
1302
SOURCE SYSTEM
1332
1352
LIBRARIAN
DATA COORDINATOR
1322
1362
ANALYSIS COORDINATOR
LIBRARY
1372
1342
DELIVERY COORDINATOR
SYSTEM COORDINATOR

FIG. 14A

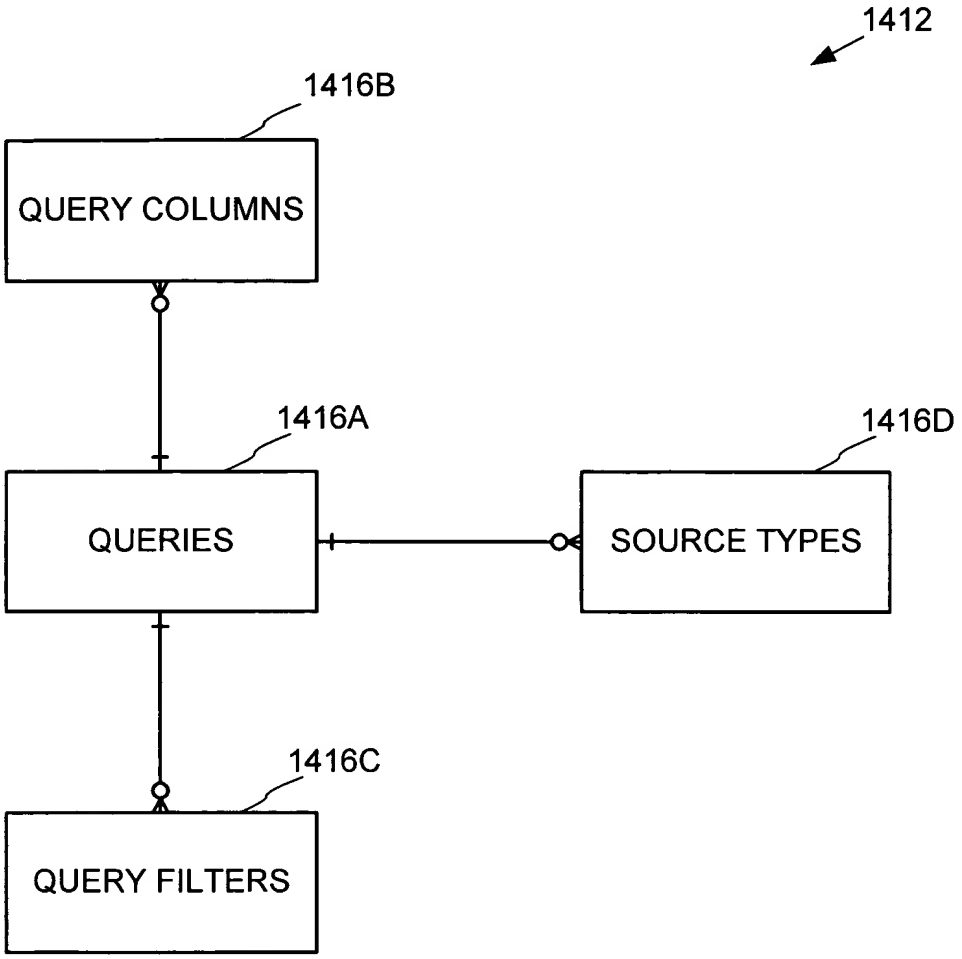


FIG. 14B

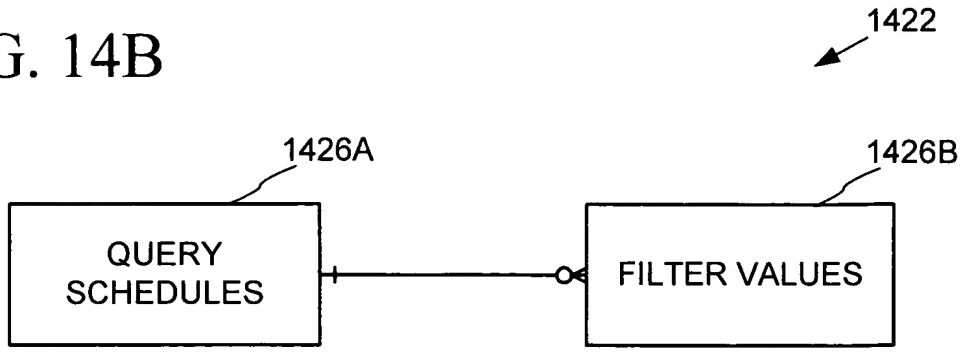


FIG. 14C

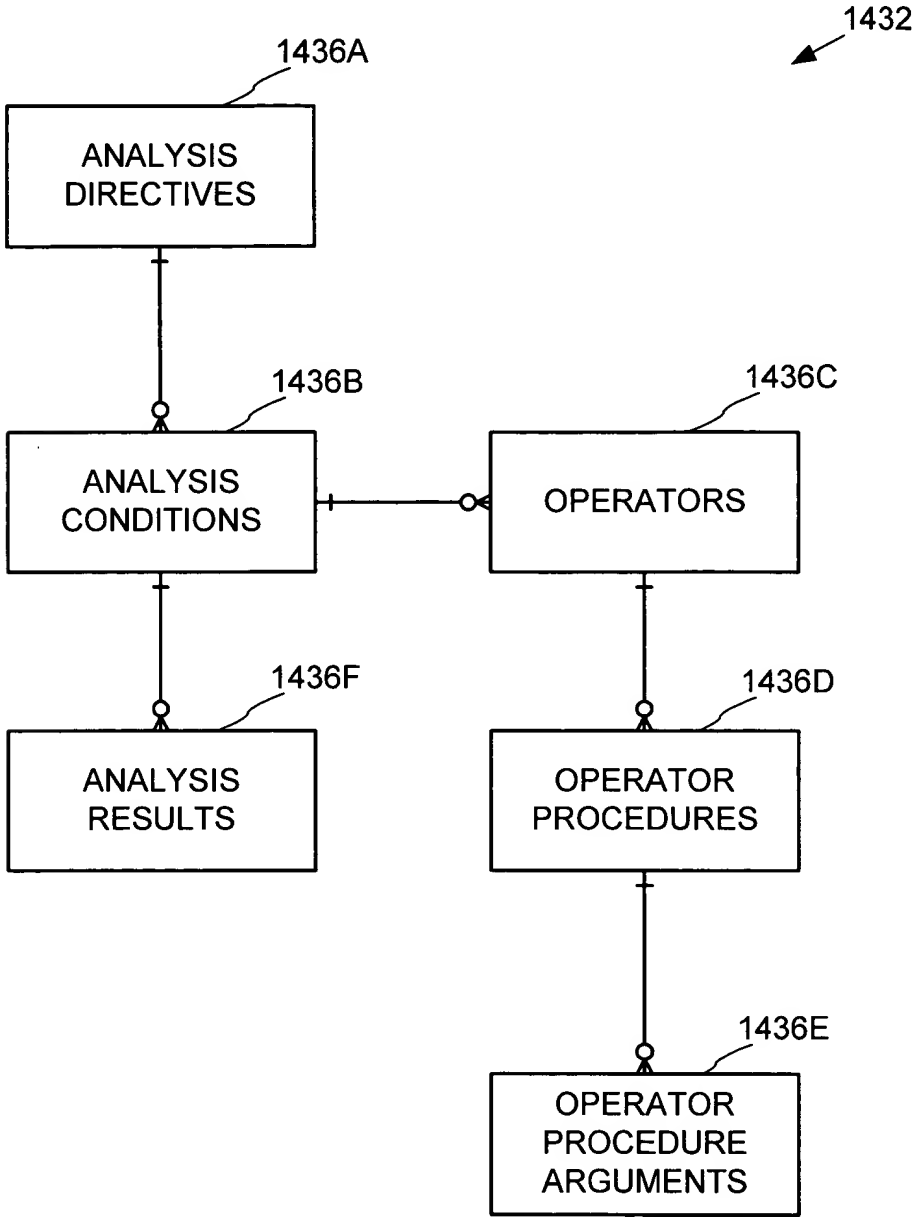
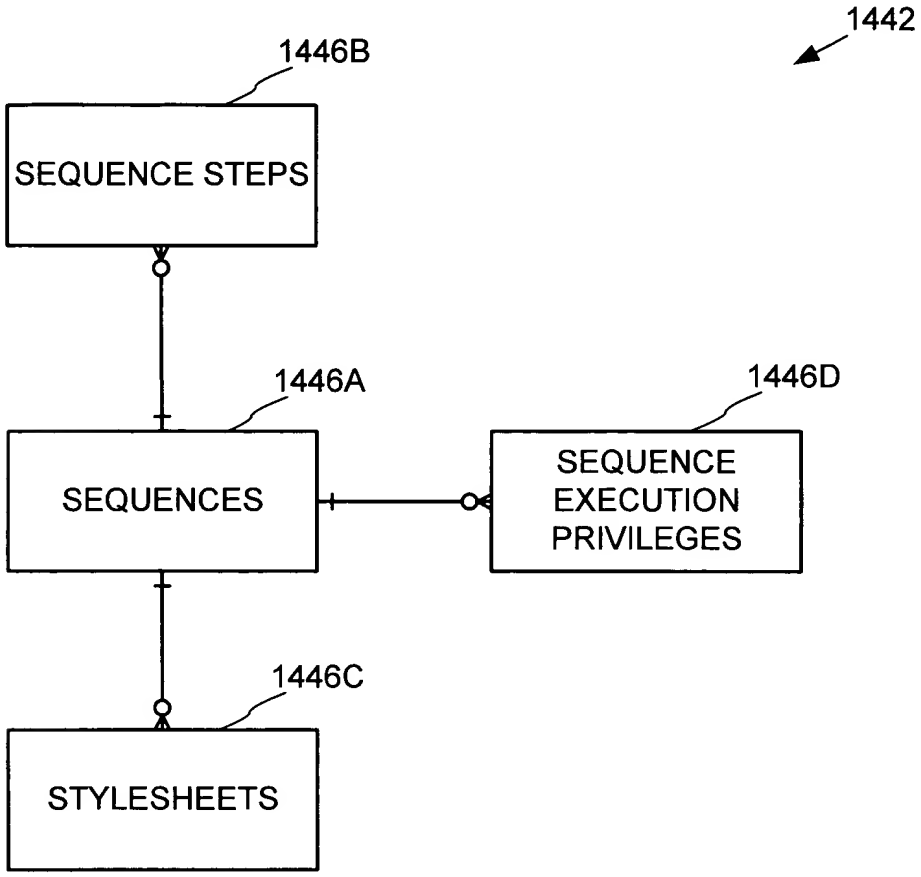

1432
1436A
ANALYSIS DIRECTIVES
1436B
ANALYSIS CONDITIONS
1436C
OPERATORS
1436F
ANALYSIS RESULTS
1436D
OPERATOR PROCEDURES
1436E
OPERATOR PROCEDURE ARGUMENTS

FIG. 14D



Patent Application Publication

FIG. 14E

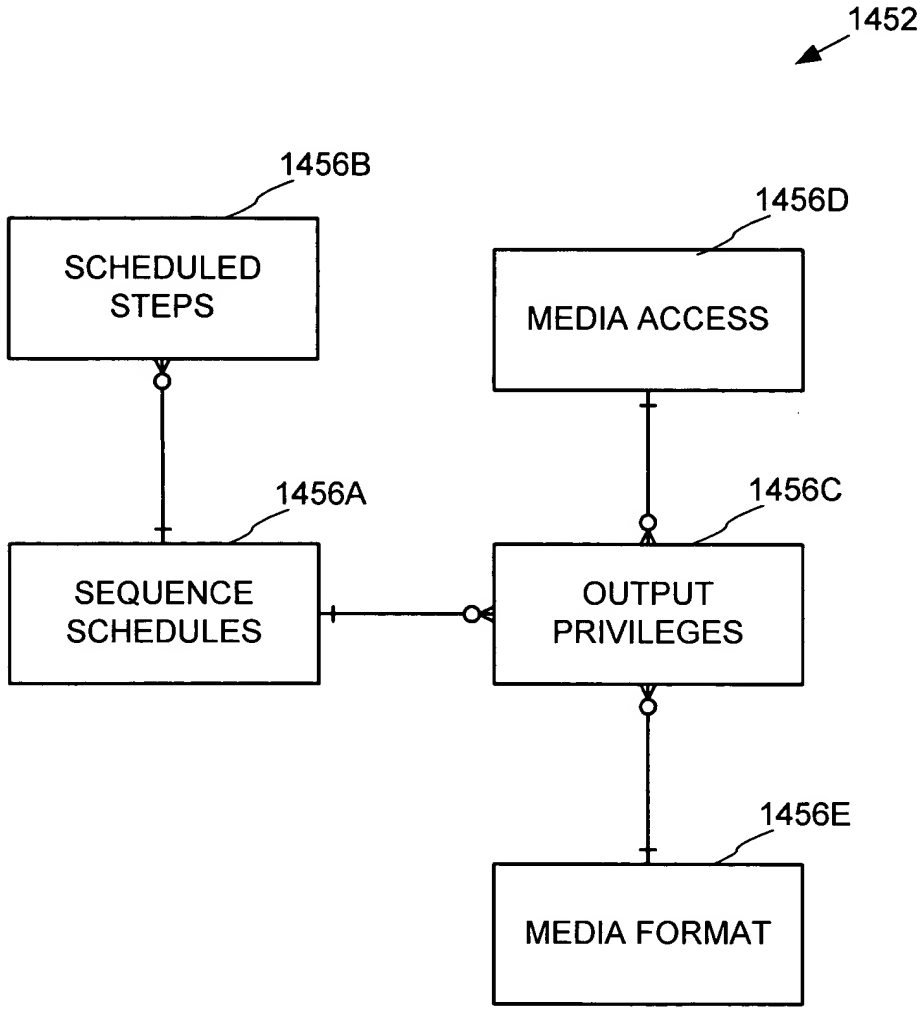

1452
1456B
SCHEDULED STEPS
1456D
MEDIA ACCESS
1456A
SEQUENCE SCHEDULES
1456C
OUTPUT PRIVILEGES
1456E
MEDIA FORMAT

FIG. 14F

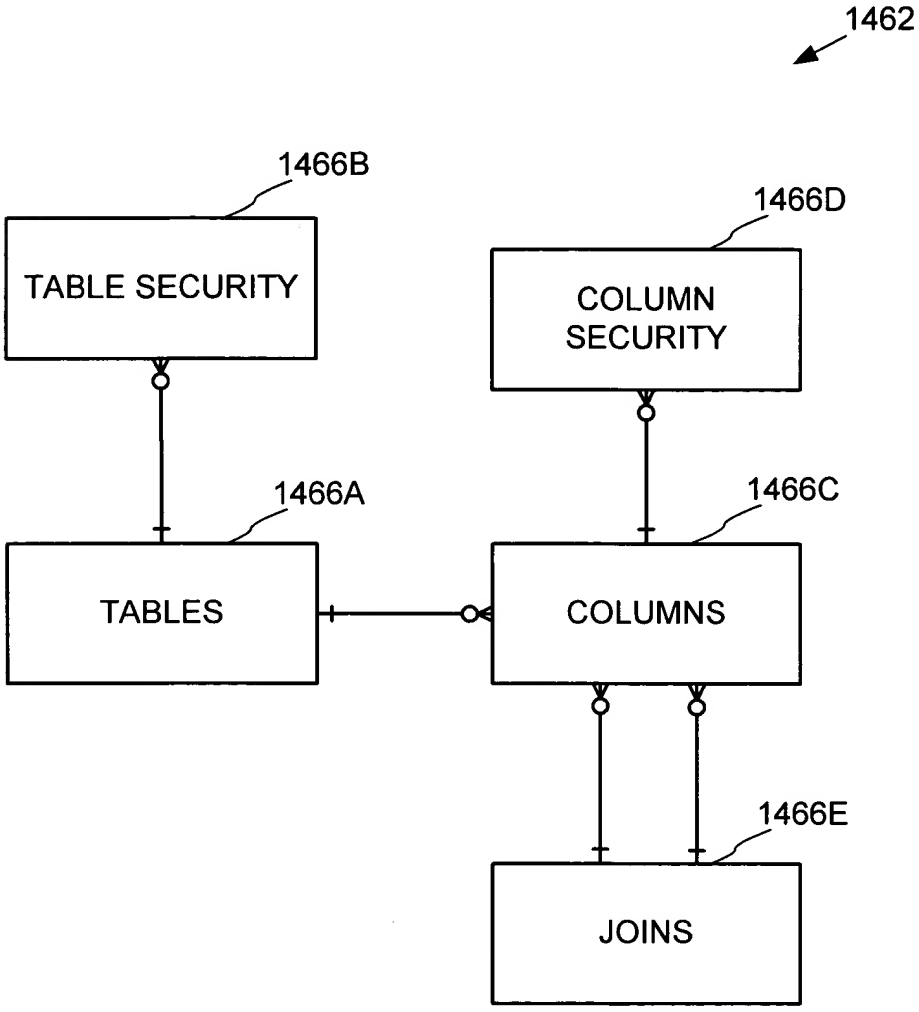

1462
1466B
TABLE SECURITY
1466D
COLUMN SECURITY
1466A
TABLES
1466C
COLUMNS
1466E
JOINS

FIG. 14G

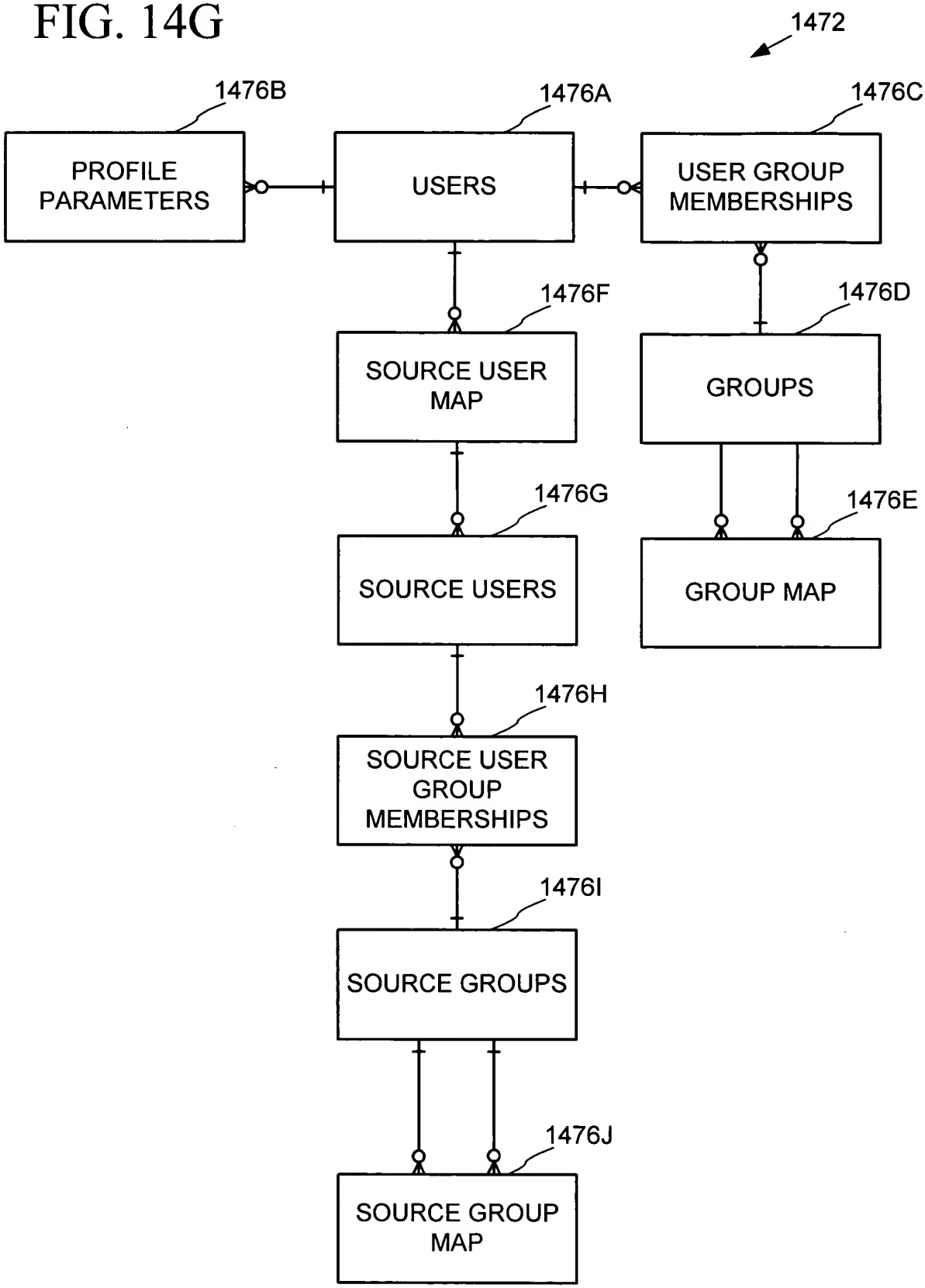
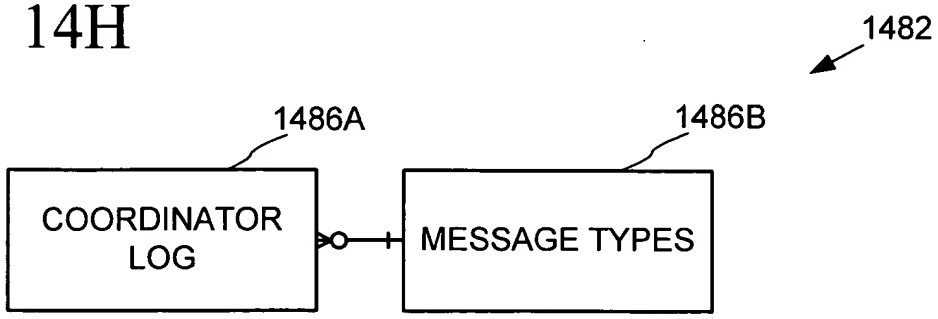

1472
1476B
1476A
1476C
PROFILE PARAMETERS
USERS
USER GROUP MEMBERSHIPS
1476F
1476D
SOURCE USER MAP
GROUPS
1476G
1476E
SOURCE USERS
GROUP MAP
1476H
SOURCE USER GROUP MEMBERSHIPS
1476I
SOURCE GROUPS
1476J
SOURCE GROUP MAP

FIG. 14H



T06080 "EOTS2660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 21 of 103

FIG. 15A

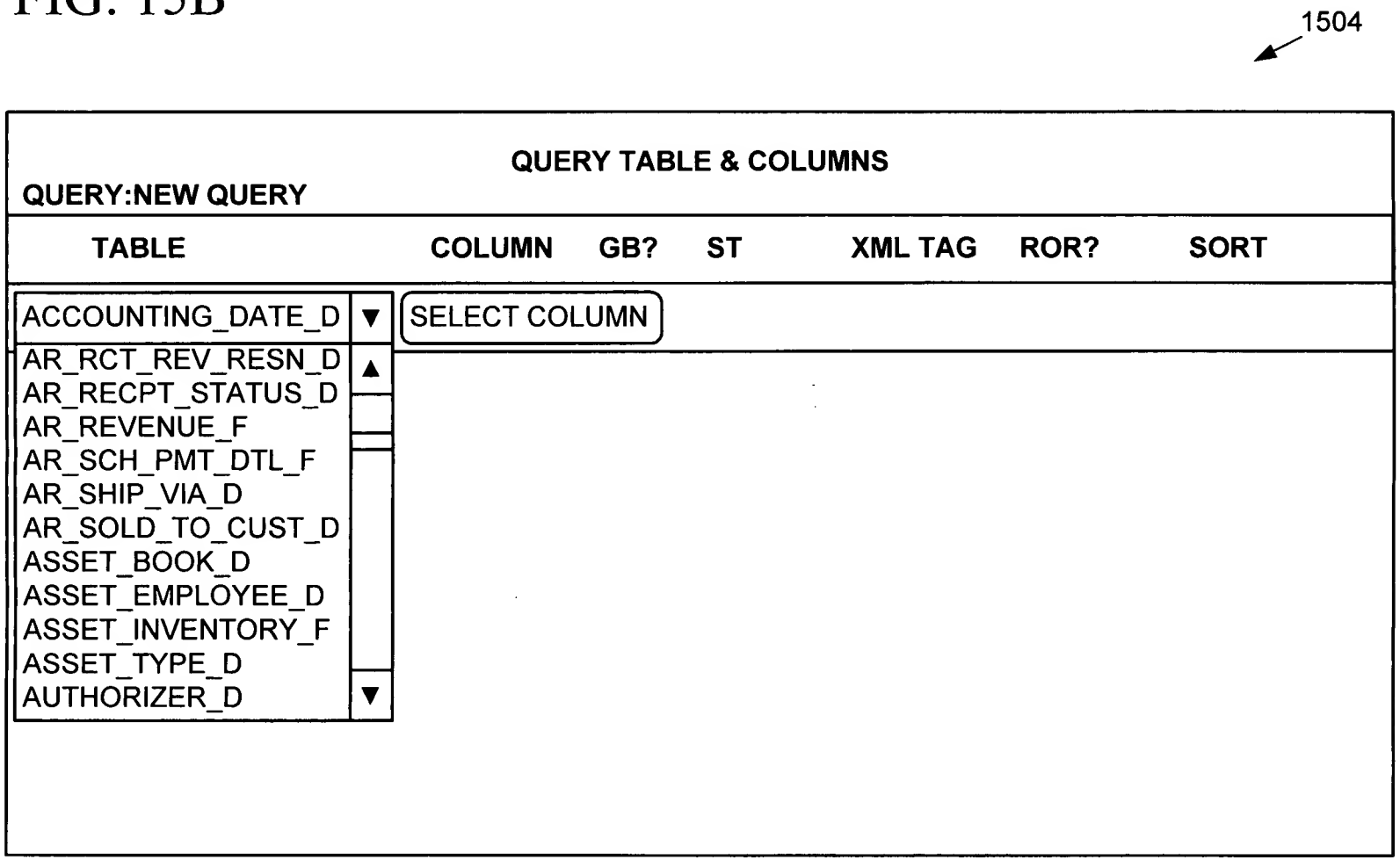
1502

QUERY DIRECTIVES					
NAME	DESC	SOURCE	USER	STATUS	OPTION
NEW	NEW	SYSTEM A ▼	NB	AVAILABLE ▼	ADD
CC1	COST CENTER	SYSTEM A	EH	AVAILABLE ▼	MOD
AR-PTD	PERIOD TO DATE	SYSTEM B	LS	AVAILABLE ▼	MOD
REV	PTD REVENUE	SYSTEM B	LS	AVAILABLE ▼	MOD
FIN	FINANCIALS	SYSTEM B	LS	AVAILABLE ▼	MOD
SALES	SALES BY DEPT	SYSTEM B	LS	AVAILABLE ▼	MOD

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 22 of 103

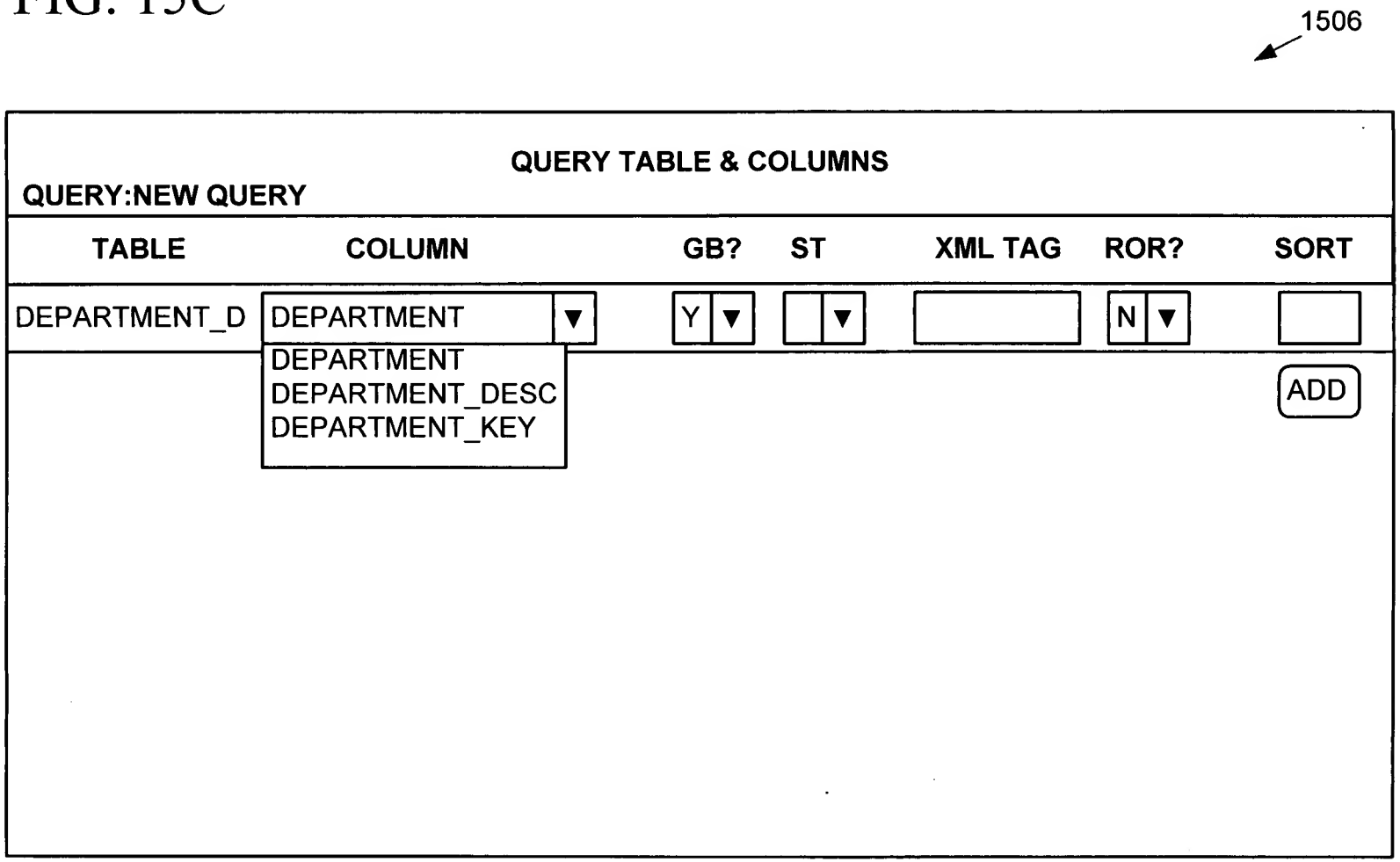
F06080 "EOF52660

FIG. 15B



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 23 of 103

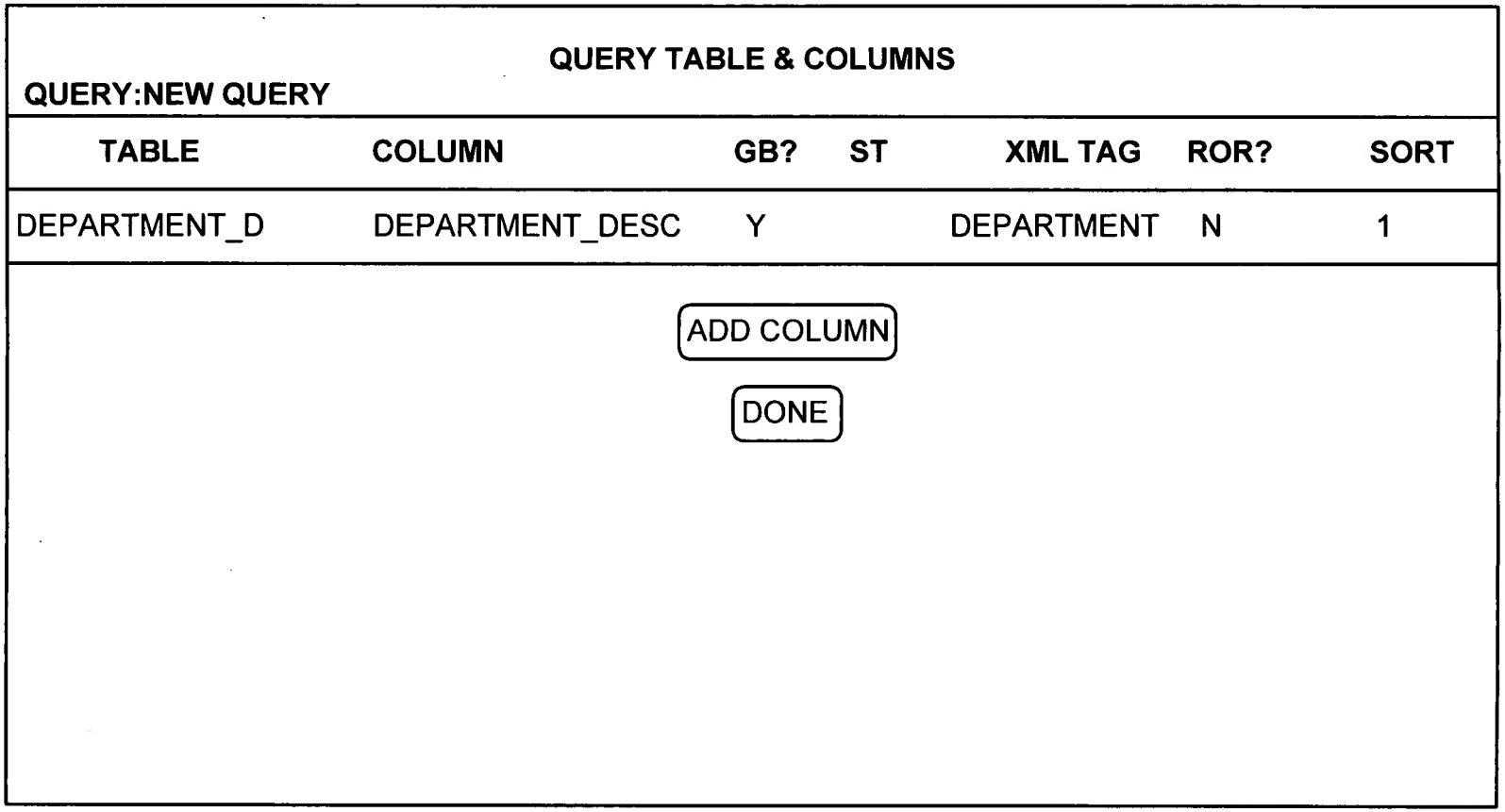
FIG. 15C



T06080" EOT52660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 24 of 103

FIG. 15D



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 25 of 103

FIG. 15E

1510

QUERY TABLE & COLUMNS

QUERY:NEW QUERY

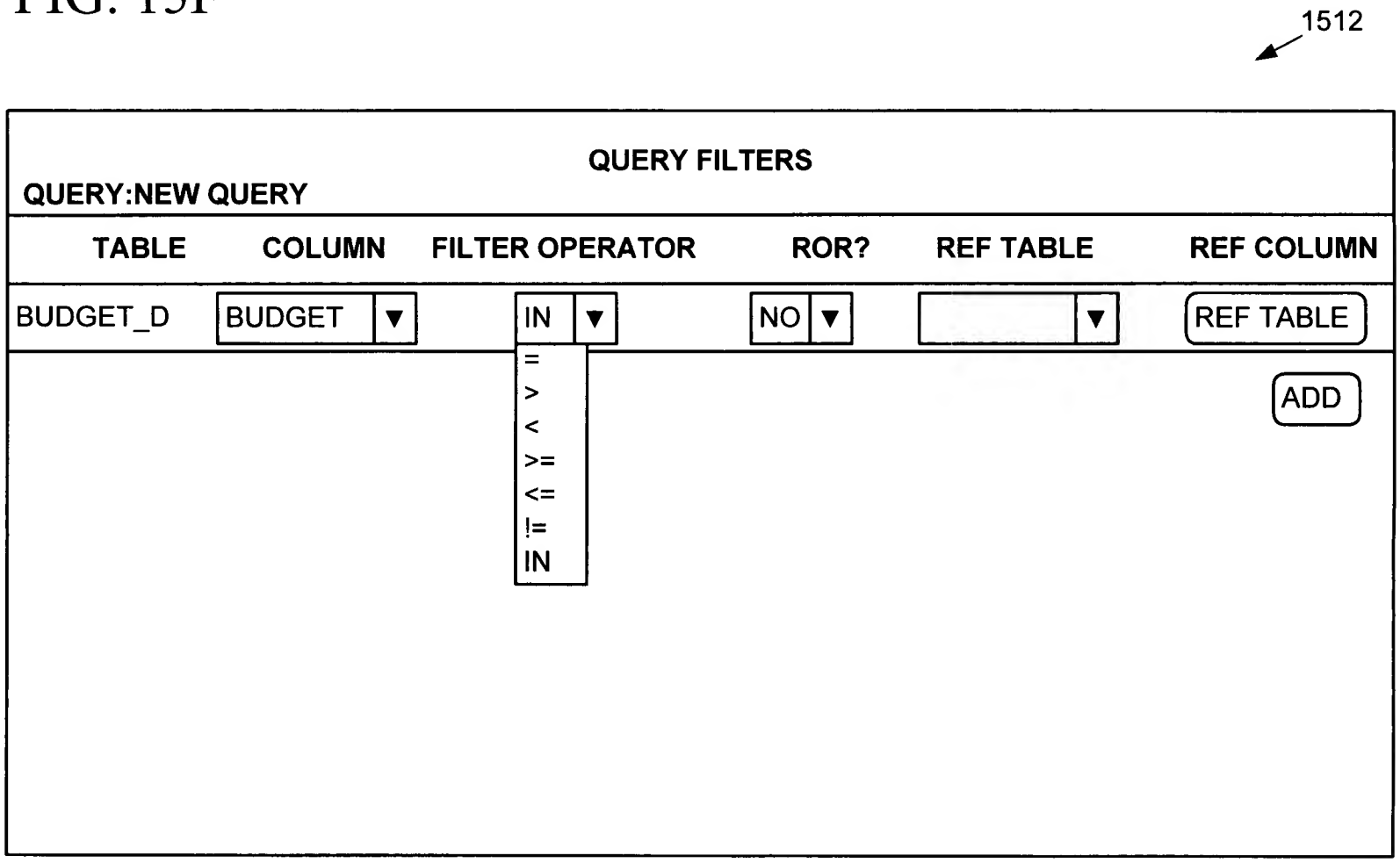
TABLE	COLUMN	GB?	ST	XML TAG	ROR?	SORT
DEPARTMENT_D	DEPARTMENT_DESC	Y		DEPARTMENT	N	1
INC_STMT_LINES_D	LINE_NAME	Y		LINE_NAME	N	
INCOME_STMT_A	PTD_ACTUAL	N	SUM	PTD_ACTUAL	N	
INCOME_STMT_A	PTD_BUDGET	N	SUM	PTD_BUDGET	N	
INCOME_STMT_A	PTD_VARIANCE	N	SUM	PTD_VARIANCE	N	

ADD COLUMN

DONE

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 26 of 103

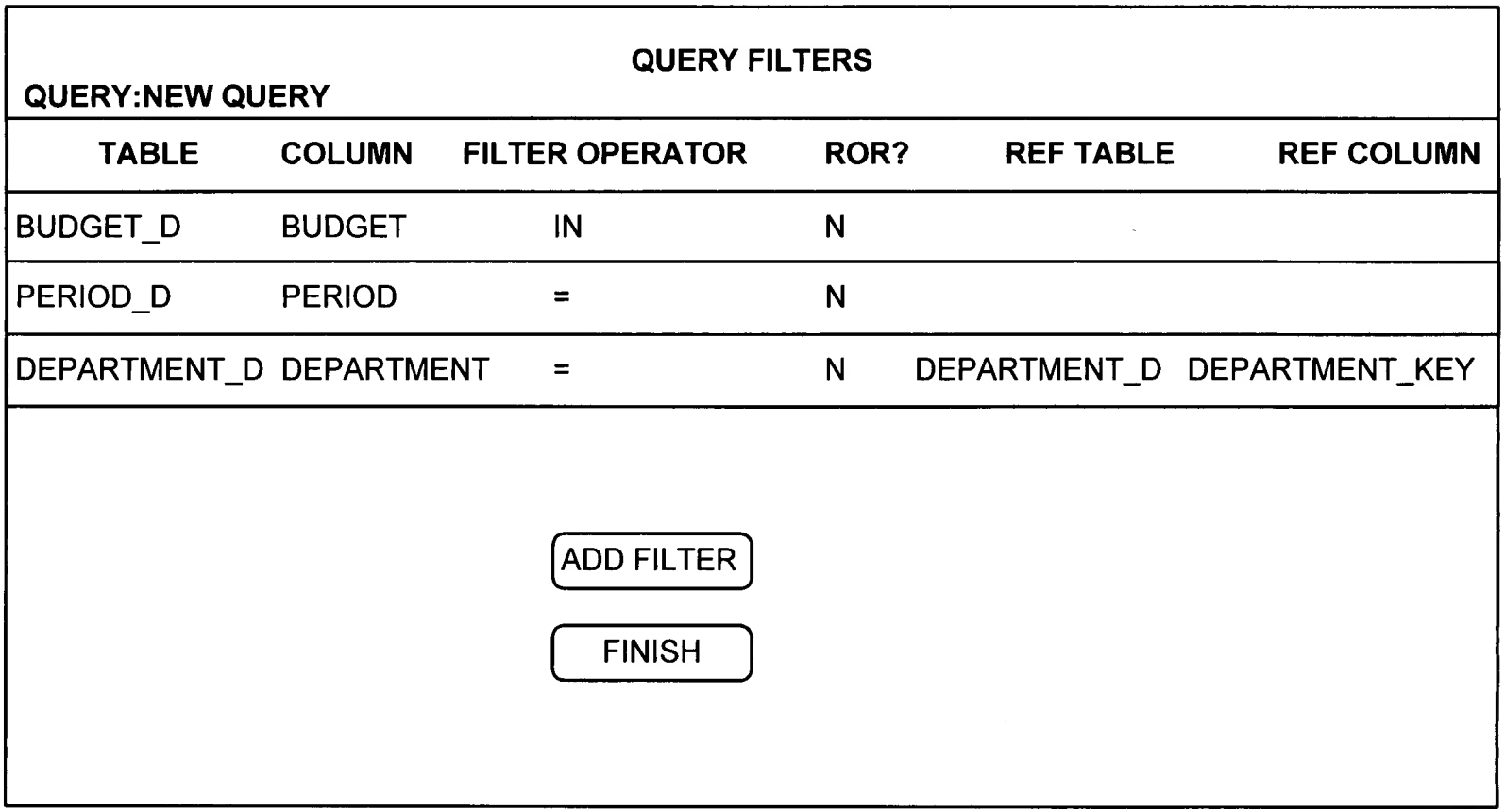
FIG. 15F



T06080 "EOTS2660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 27 of 103

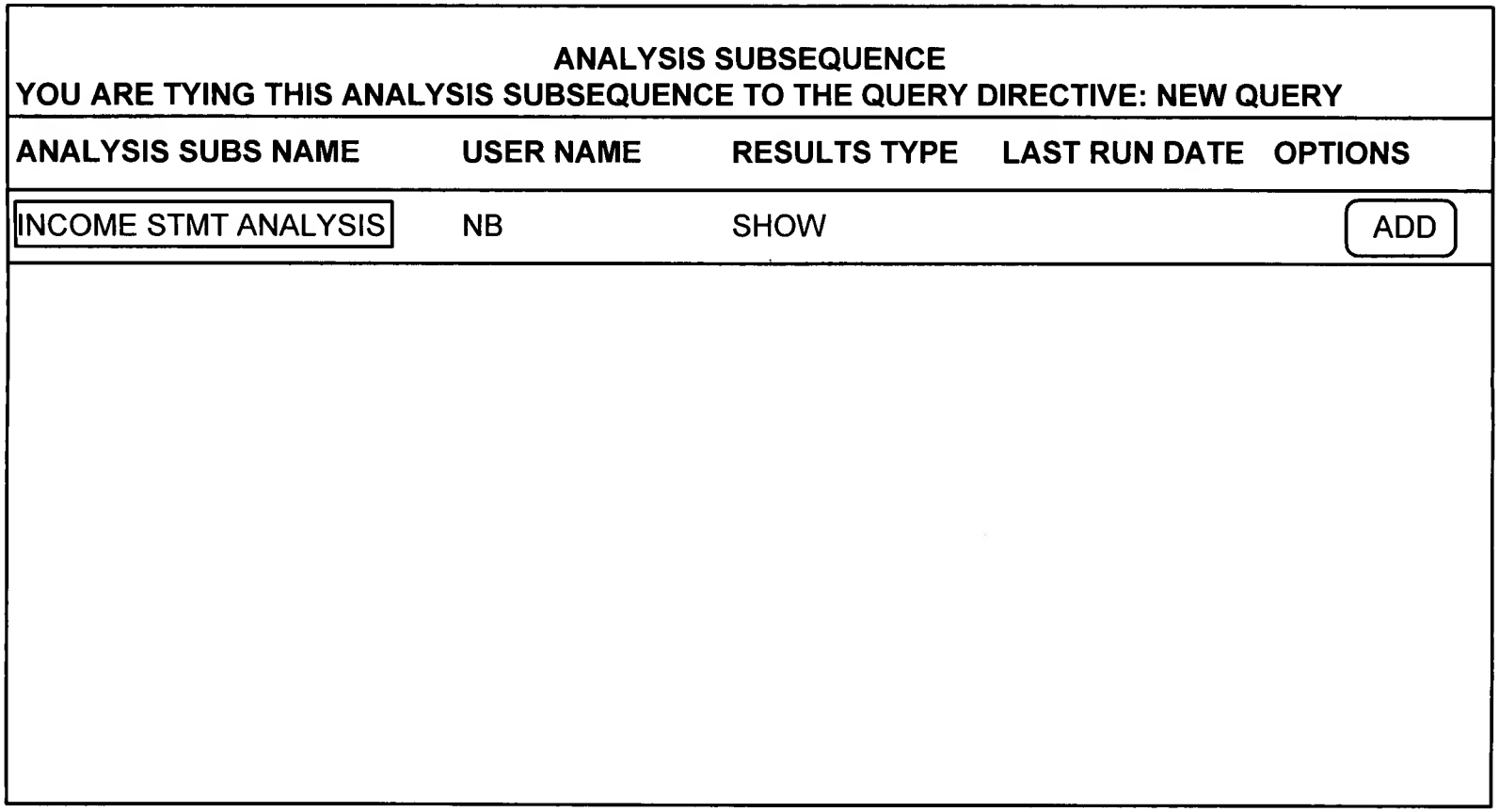
FIG. 15G



"D6080" EOF52660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 28 of 103

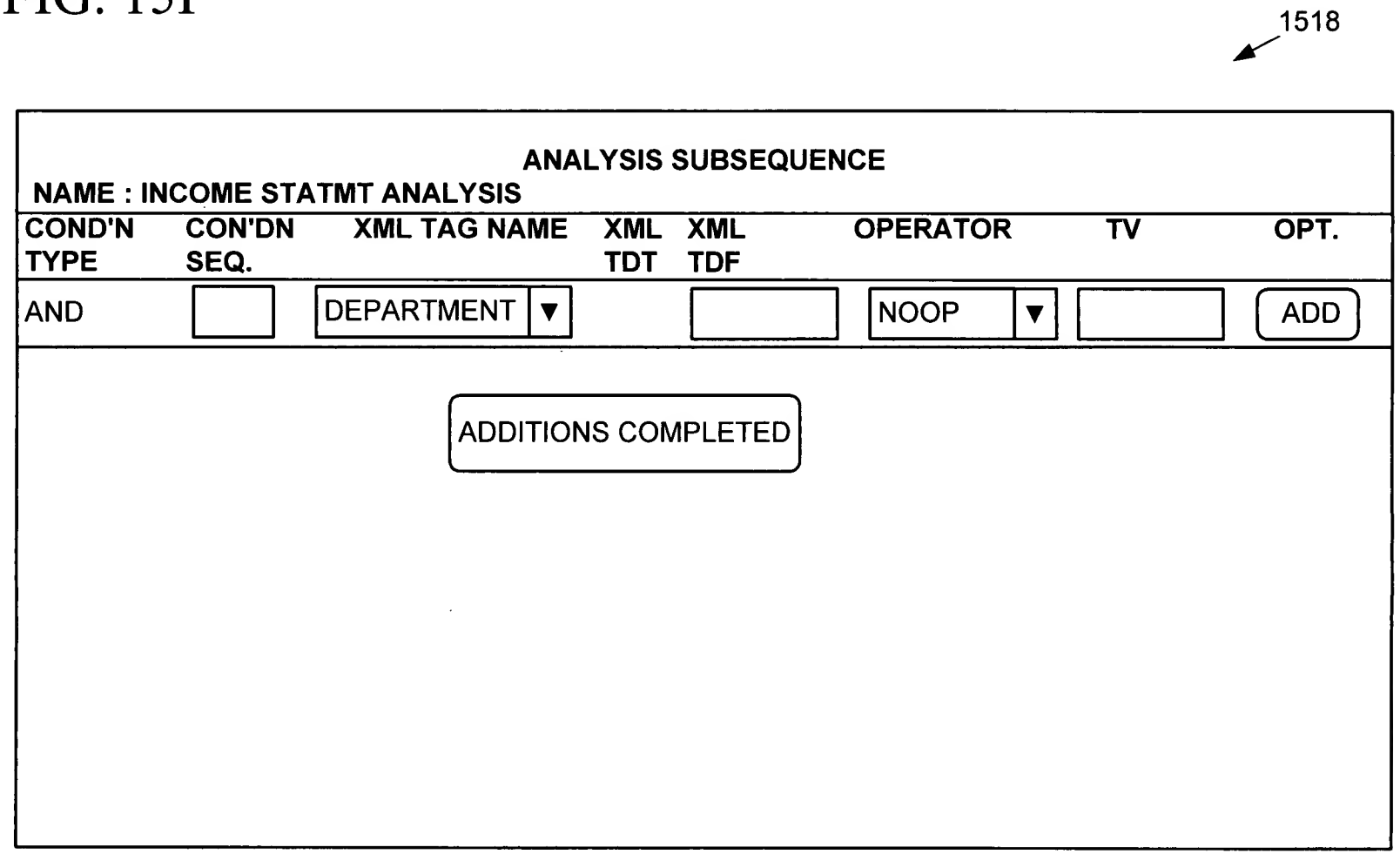
FIG. 15H



TO6080 "EOTS26 60

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 29 of 103

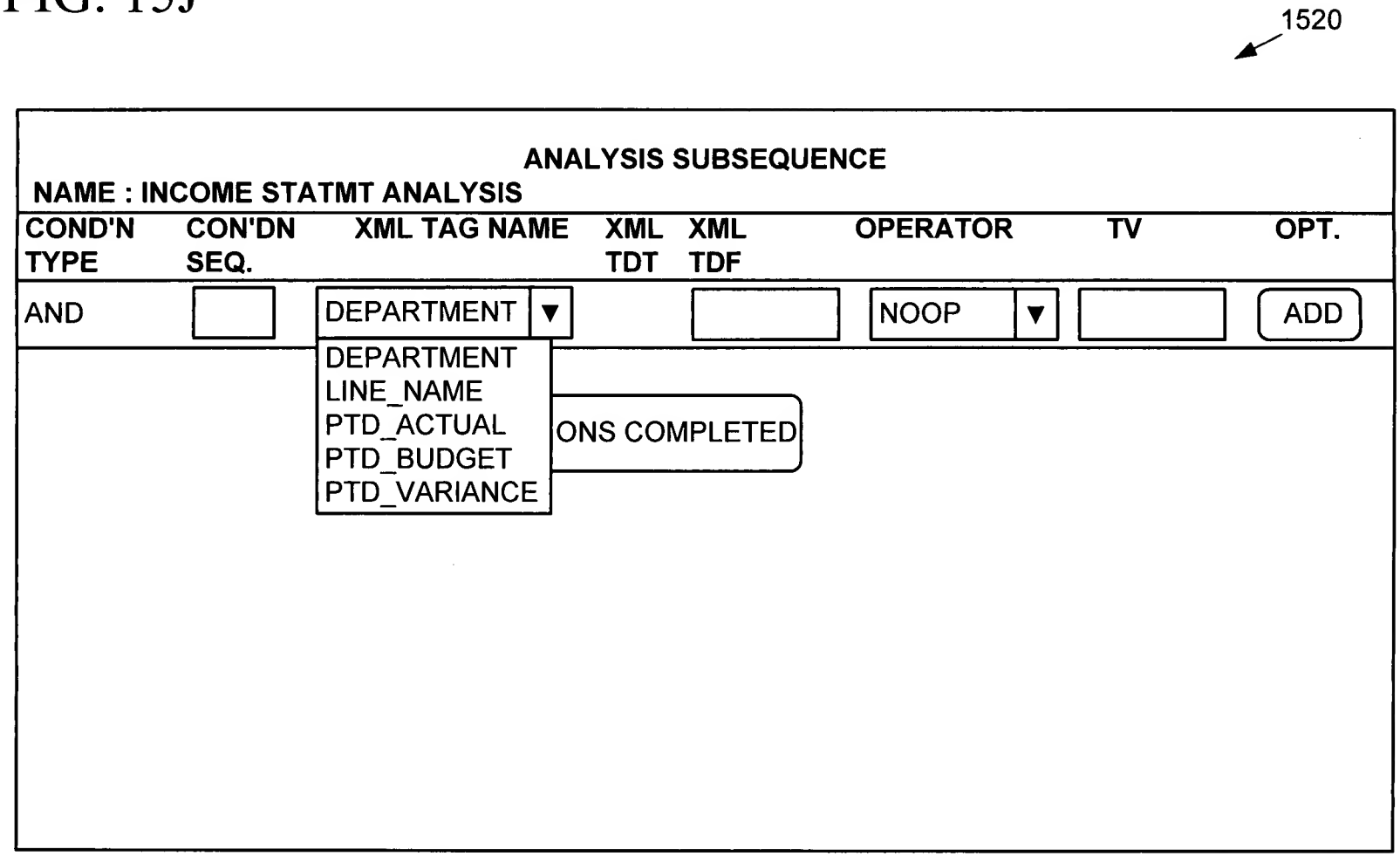
FIG. 15I



T06080 EOT52660

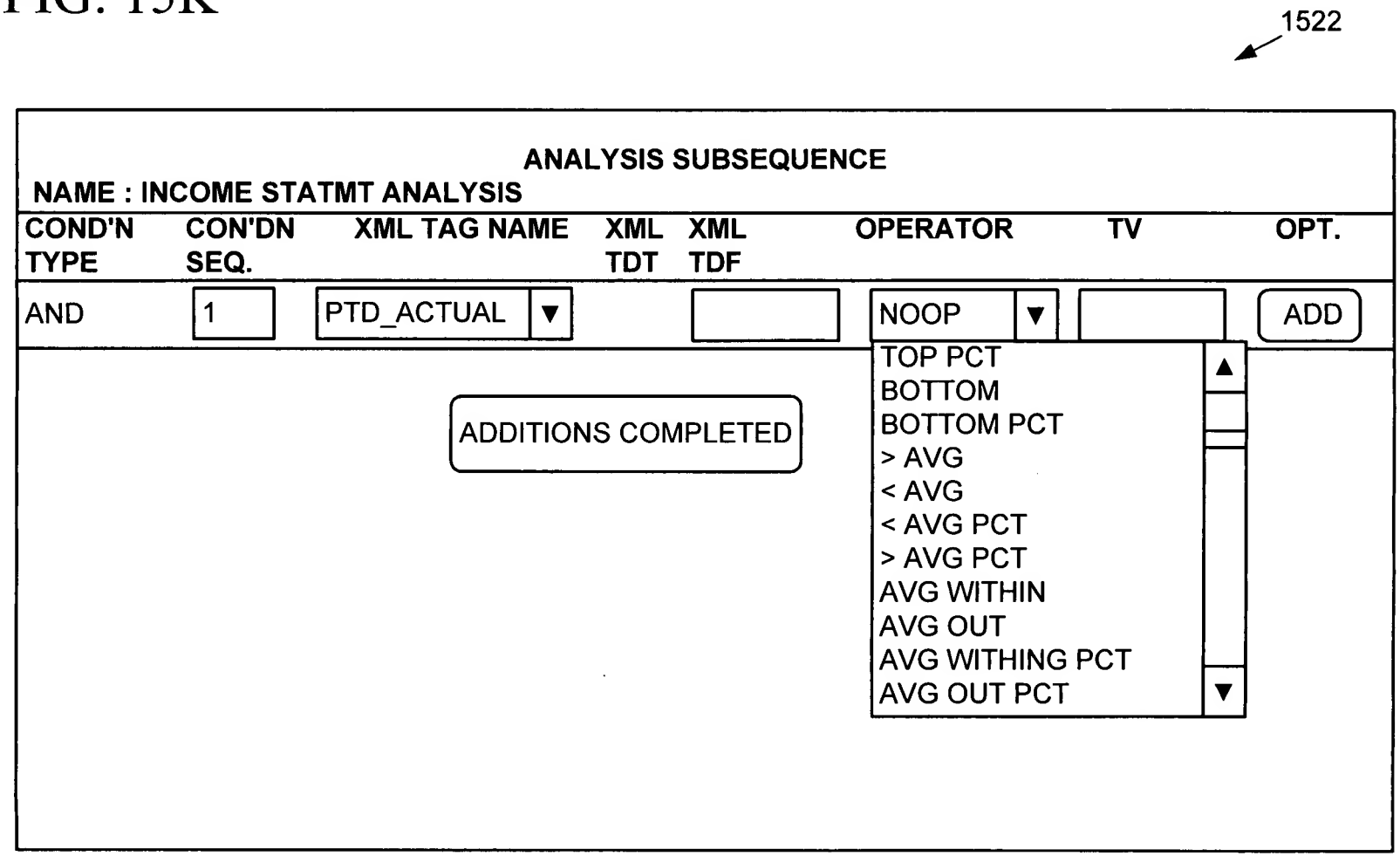
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 30 of 103

FIG. 15J



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 31 of 103

FIG. 15K



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 32 of 103

FIG. 15L

1524

ANALYSIS SUBSEQUENCE

NAME : INCOME STATMT ANALYSIS

COND'N TYPE	CON'DN SEQ	XML TAG NAME	XML TDT	XML TDF	OPERATOR	TV	OPT	
AND		DEPARTMENT ▼			NOOP ▼		ADD	
AND	1	PTD_ACTUAL ▼			<> ▼	0	MOD	DEL
AND	2	PTD_VARIANCE ▼			> ▼	300000	MOD	DEL
AND	3	PTD_VARIANCE ▼			TOP PCT ▼	10	MOD	DEL

ADDITIONS COMPLETED

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 33 of 103

FIG. 15M

1526

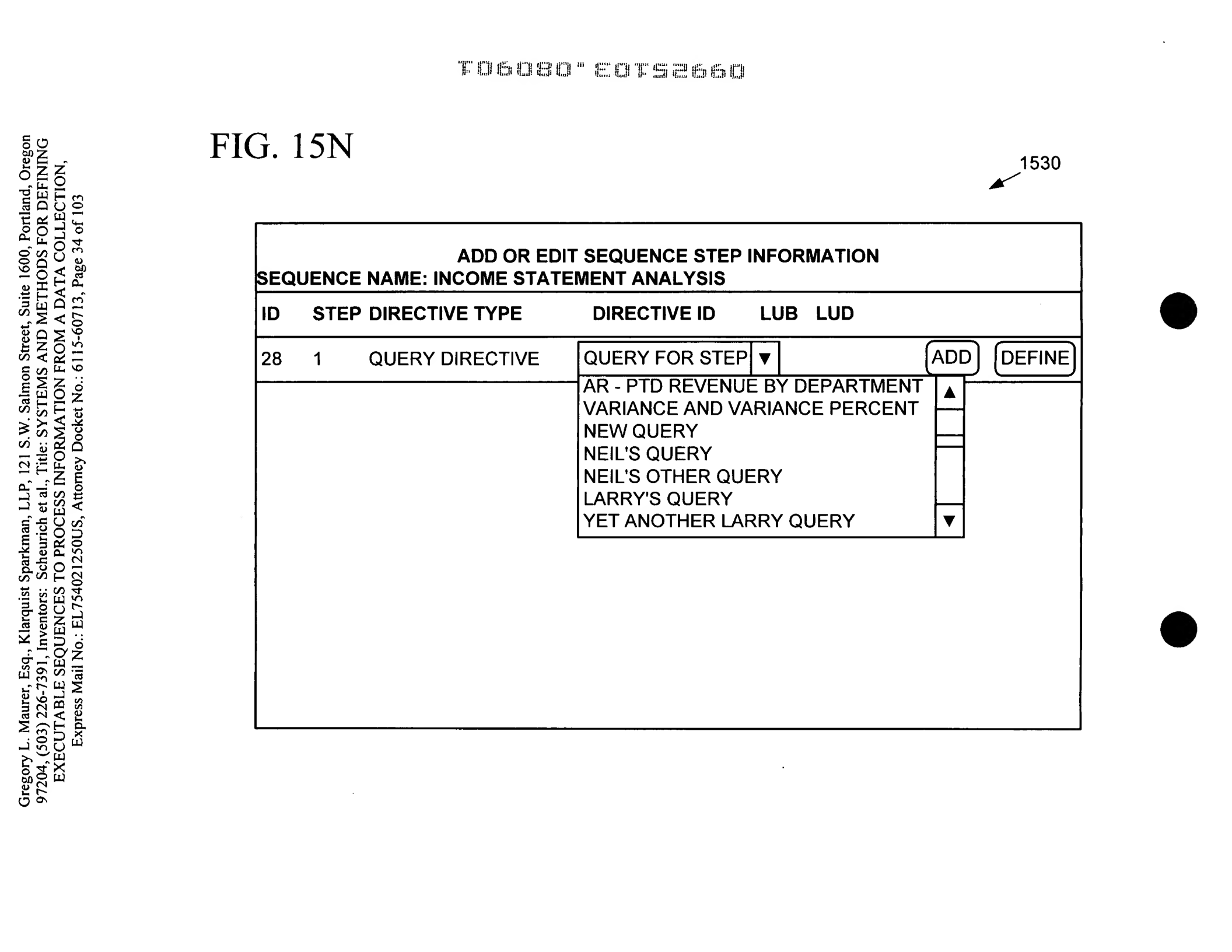
SEQUENCES

ADD, EDIT OR DELETE SEQUENCES

ID	NAME	DESCRIPTION	STATUS	USER	OPT
	INCOME STAT'T ANALYSIS	INCOME STAT'T ANALYSIS	AVAIL ▼	NB	ADD
24	FINANCIAL STATEMENT	FINANCIAL STATEMENT	AVAIL ▼	LS	MOD
25	FSV	FSV	AVAIL ▼	NB	MOD
26	COST CENTER SCORING 1	COST CENTER SCORING	DISAB ▼	LS	MOD
27	COST CENTER SCORING 2	CSS PTD-VARIANCE	AVAIL ▼	LS	MOD

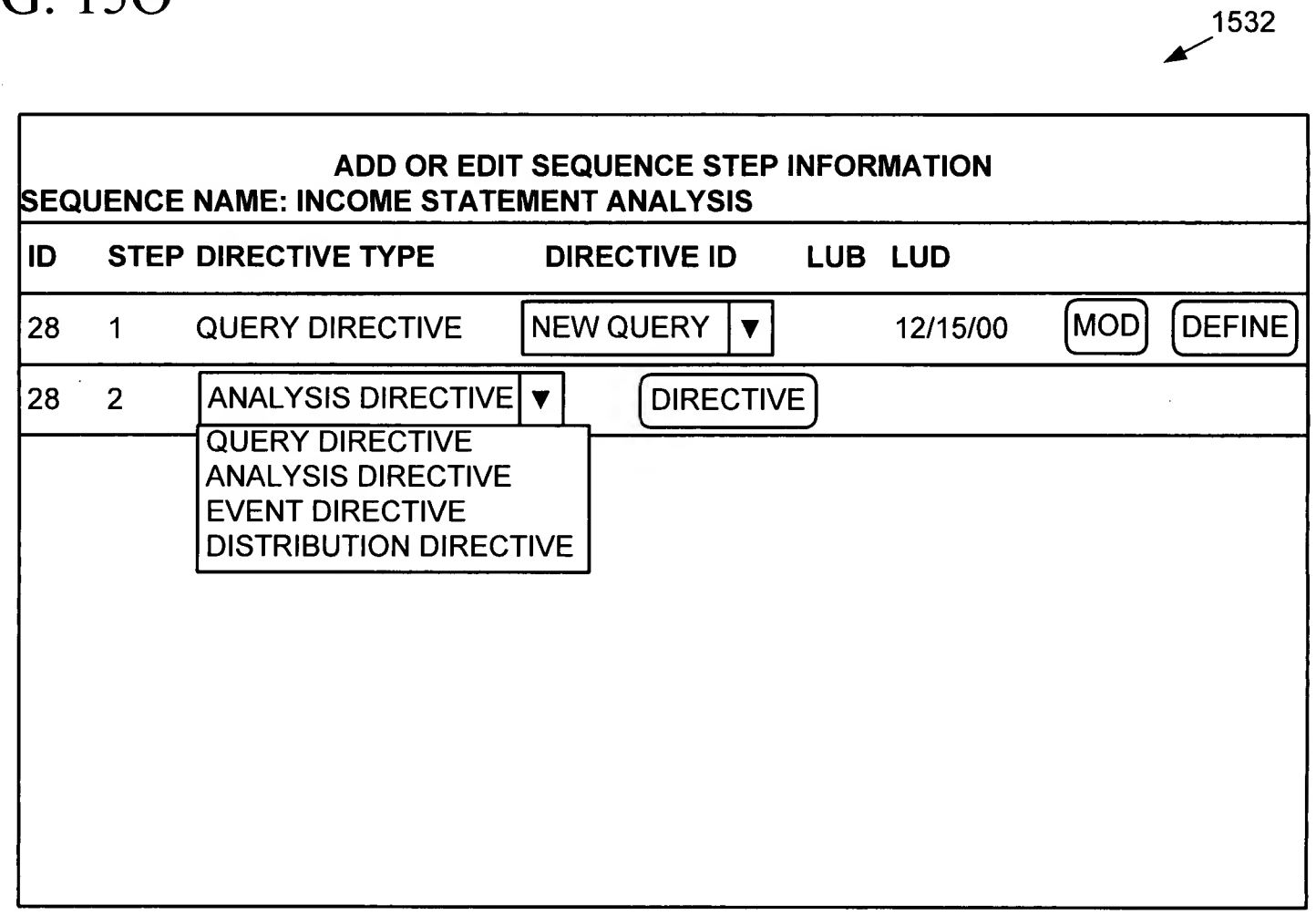
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 34 of 103

FIG. 15N



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 35 of 103

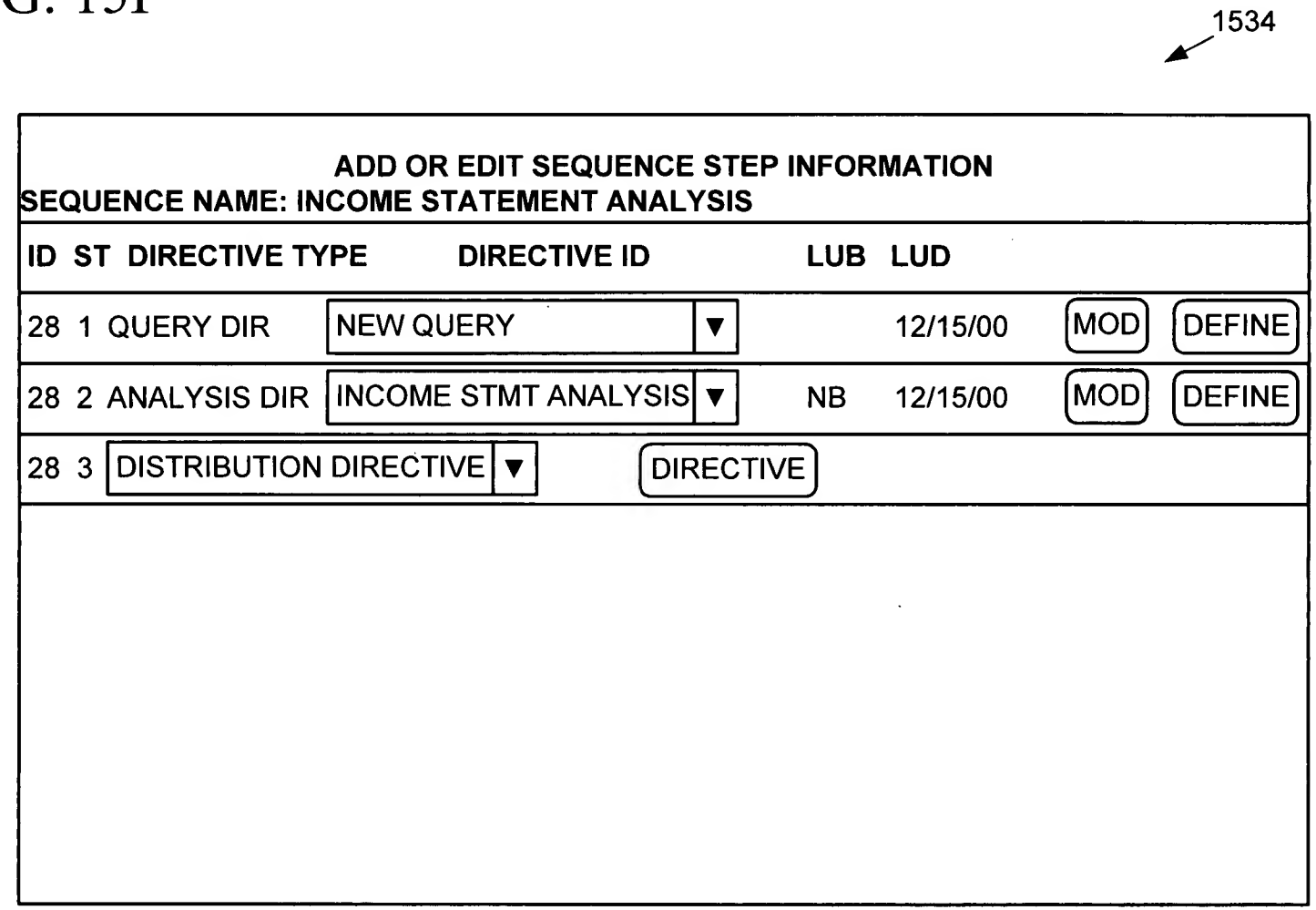
FIG. 15O



T06080 "EOT52660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 36 of 103

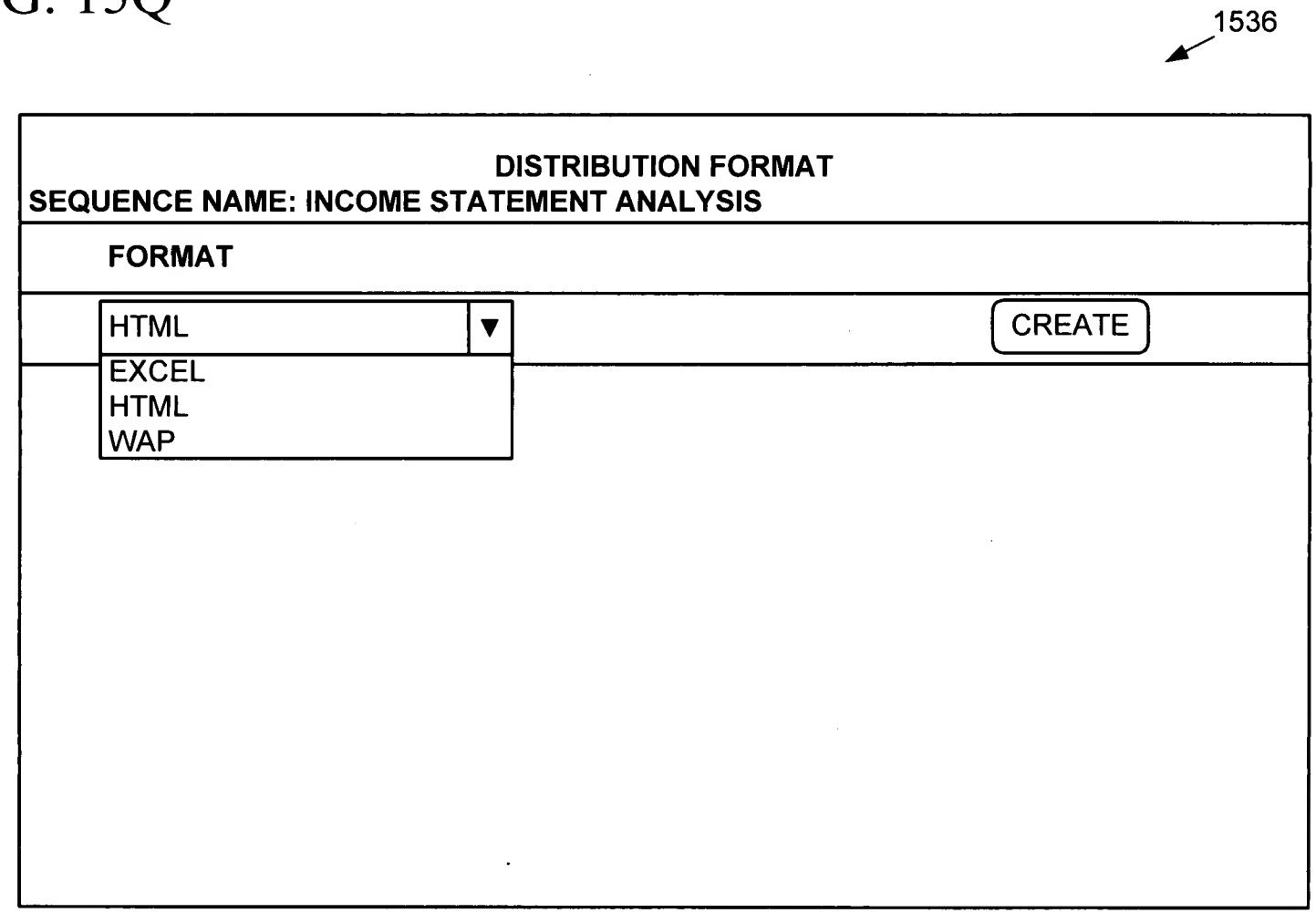
FIG. 15P



T06080 "EOT52660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 37 of 103

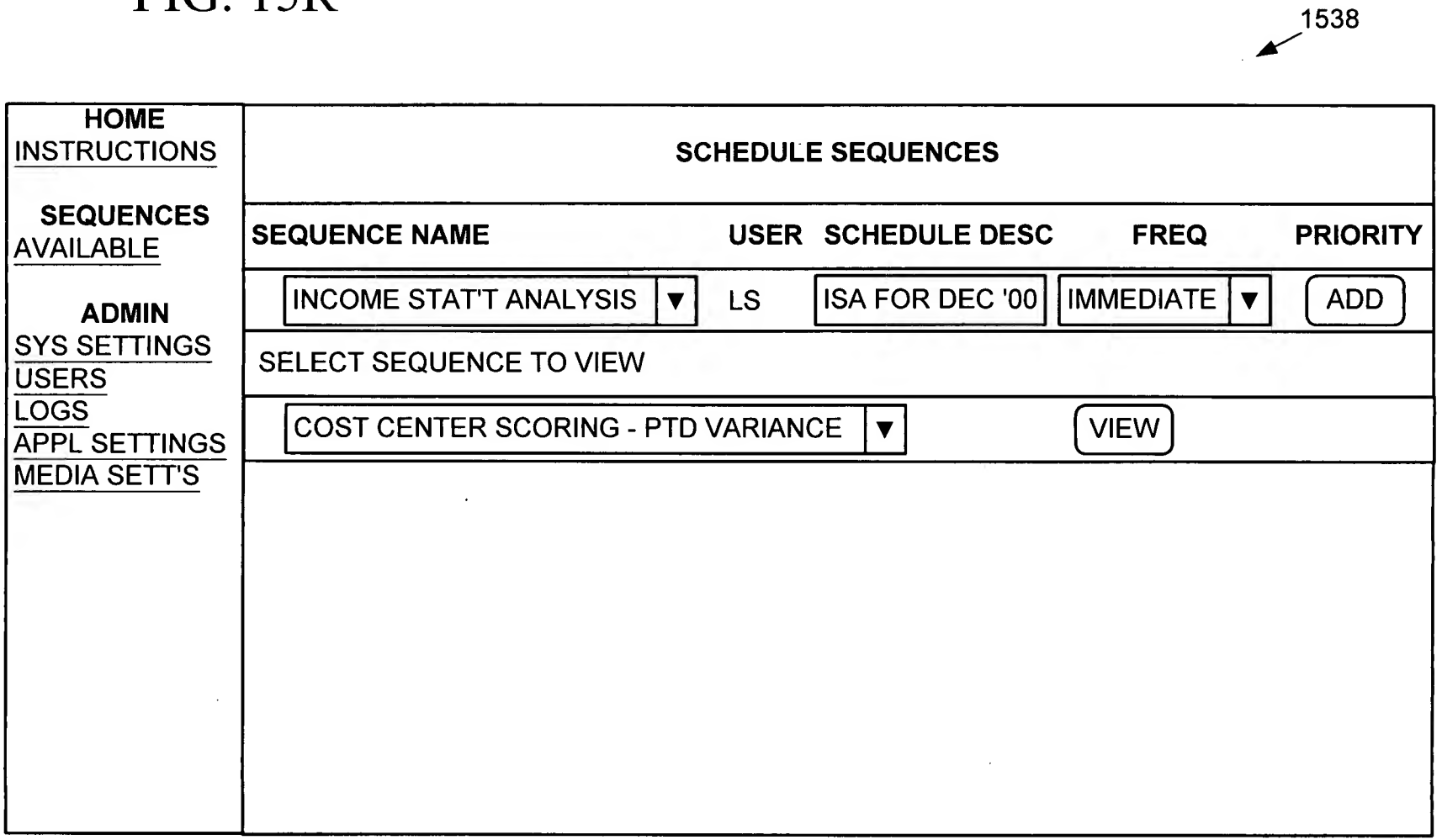
FIG. 15Q



T06080 "EOT52660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 38 of 103

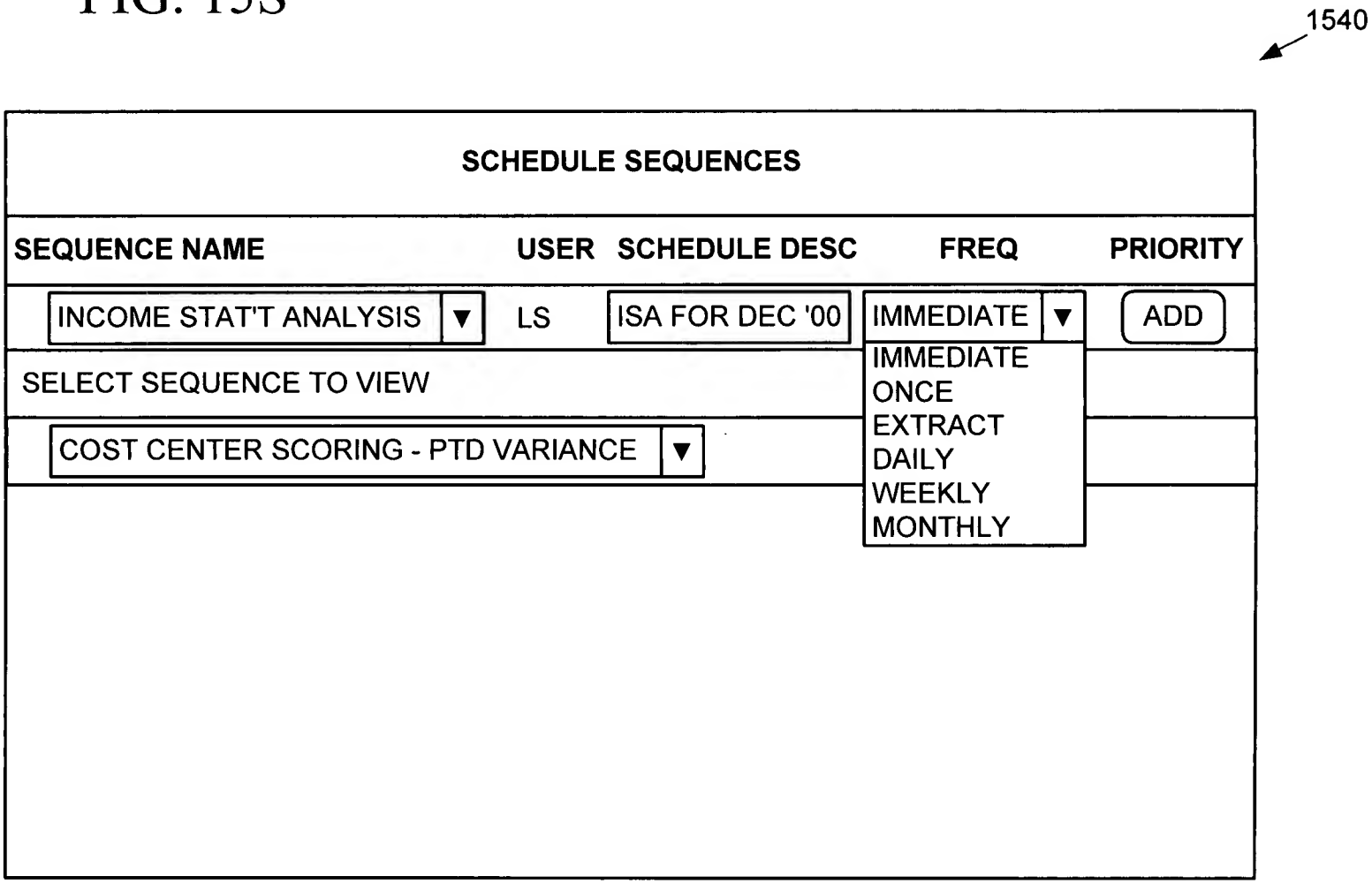
FIG. 15R



T06080 "EOTS2660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 39 of 103

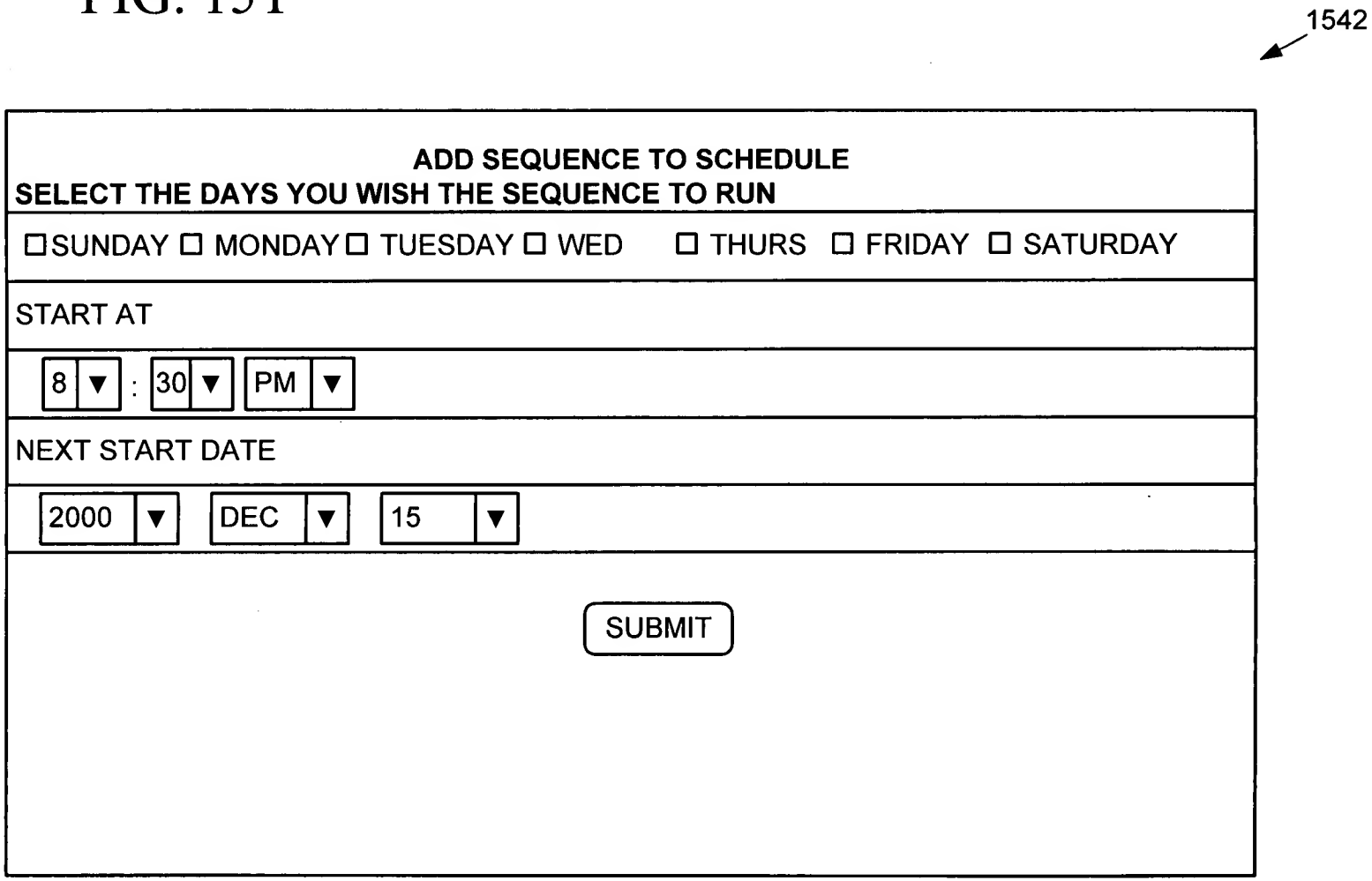
FIG. 15S



T06080 E0752660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 40 of 103

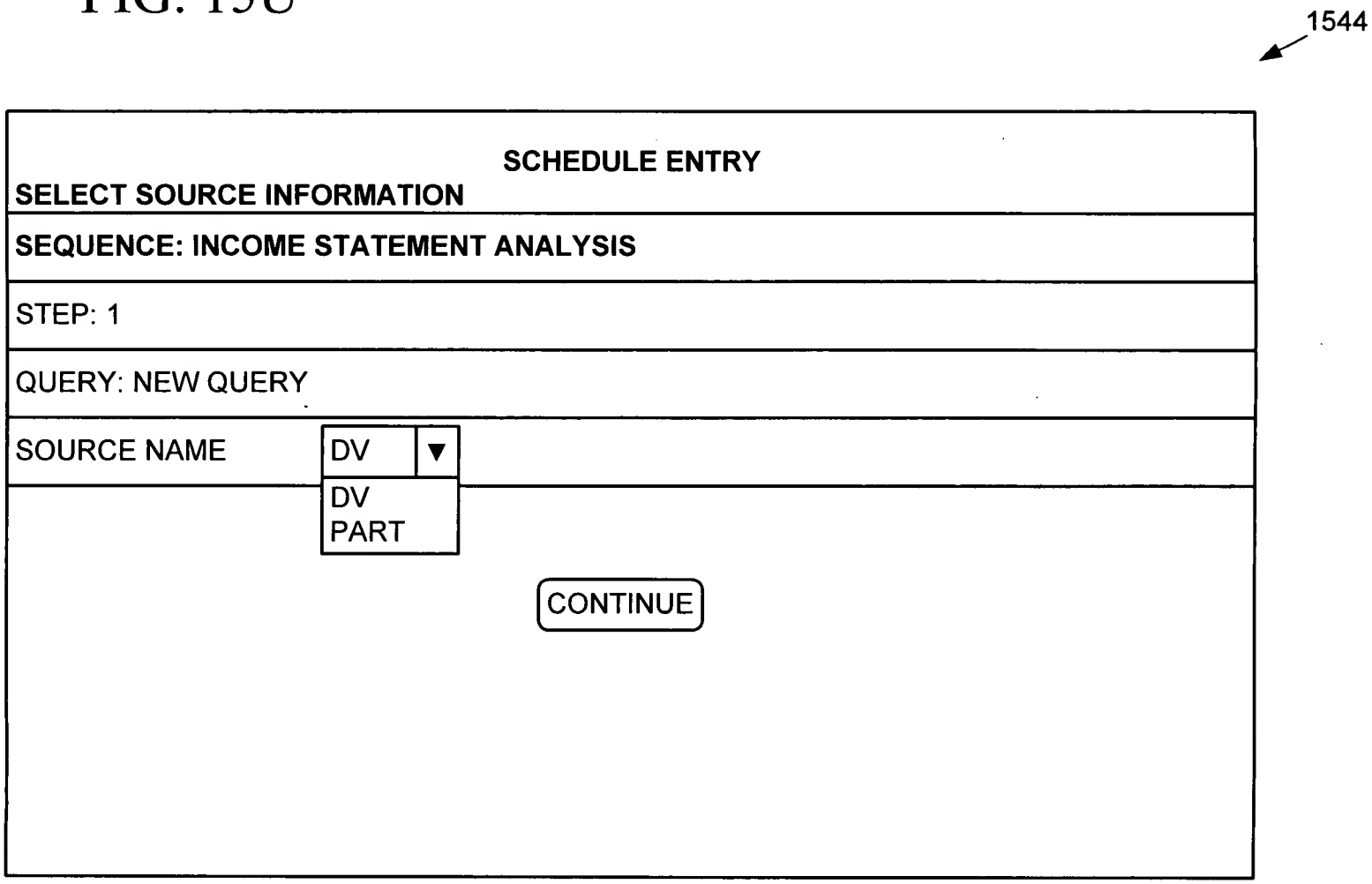
FIG. 15T



T06080 EOT52660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 41 of 103

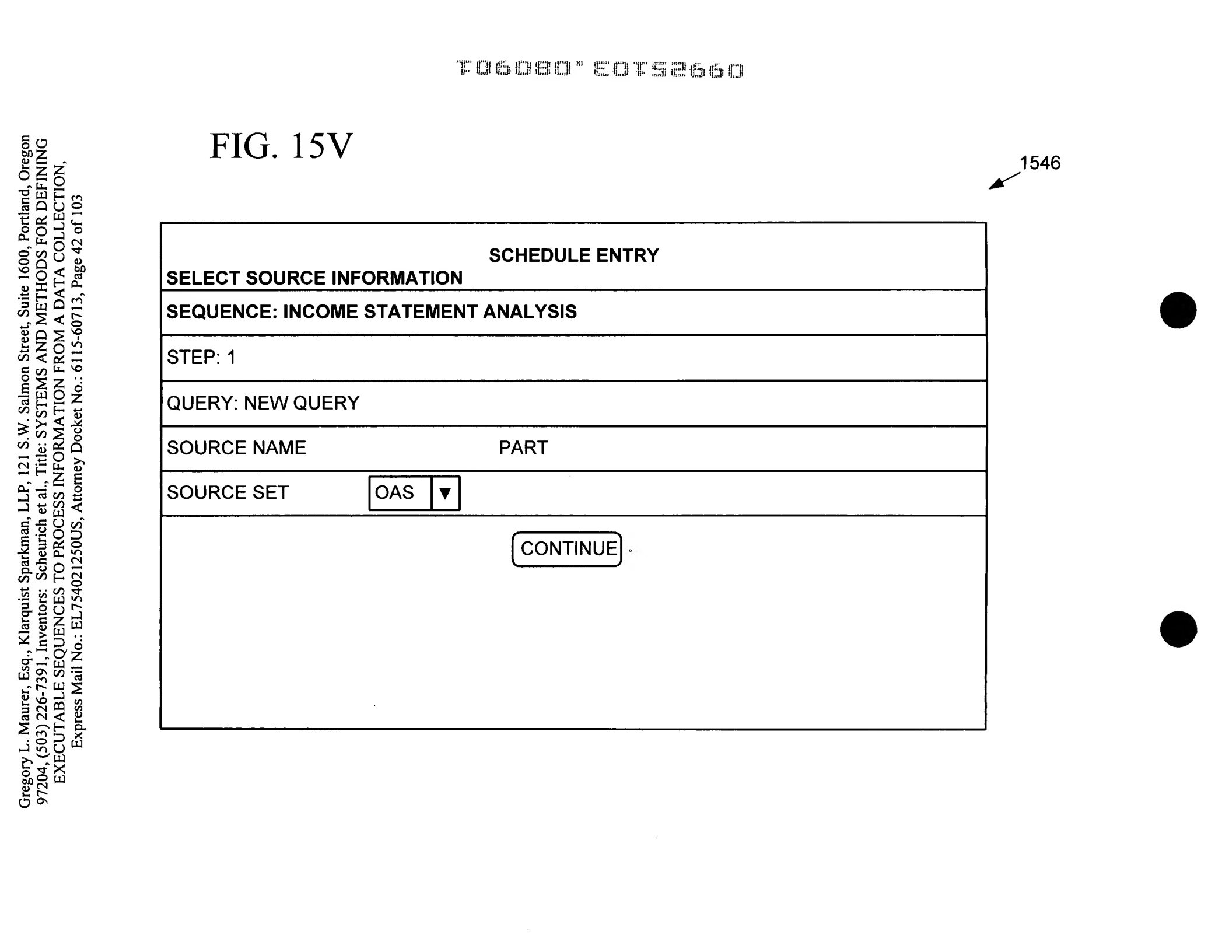
FIG. 15U



T06080 EOT52660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 42 of 103

FIG. 15V



T06080" EQT52660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 43 of 103

FIG. 15W

1548

FILTER VALUES FOR QUERY
SEQUENCE: INCOME STATEMENT ANALYSIS
SCHEDULE: INCOME STATEMENT ANALYSIS FOR DECEMBER 2000
SEQUENCE STEP: 1
NEW QUERY

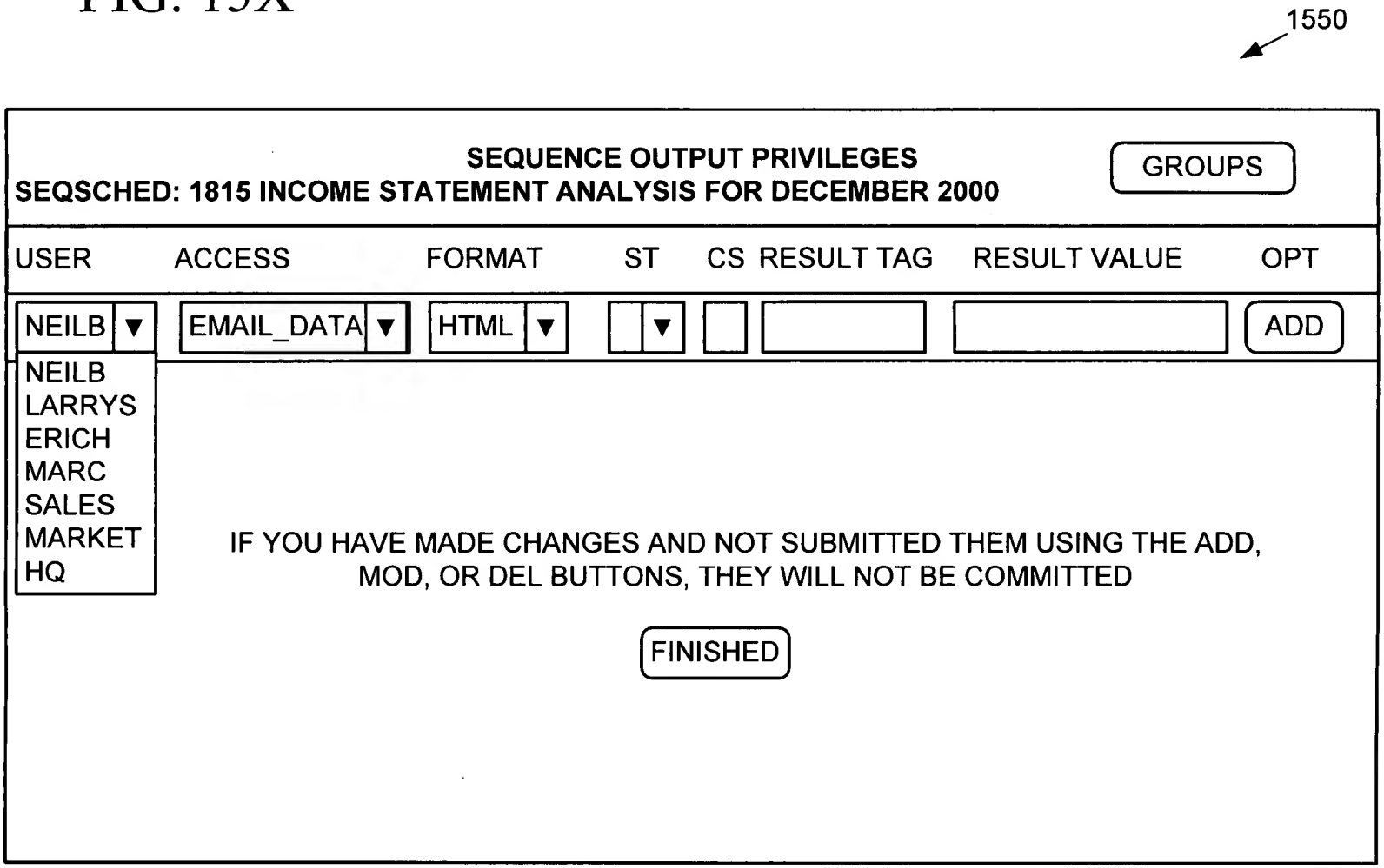
TABLE NAME	COL NAME	OP	FILTER VALUE		
BUDGET_D	BUDGET	IN	ACTUAL ▼	MOD	
			CORPORATE 1997 ▼	MOD	DEL
			▼	ADD	
PERIOD_D	PERIOD	=	DEC-2000 ▼	MOD	

IF YOU HAVE MADE CHANGES AND NOT SUBMITTED THEM USING THE ADD, MOD, OR DEL BUTTONS, THEY WILL NOT BE COMMITTED

FINISHED

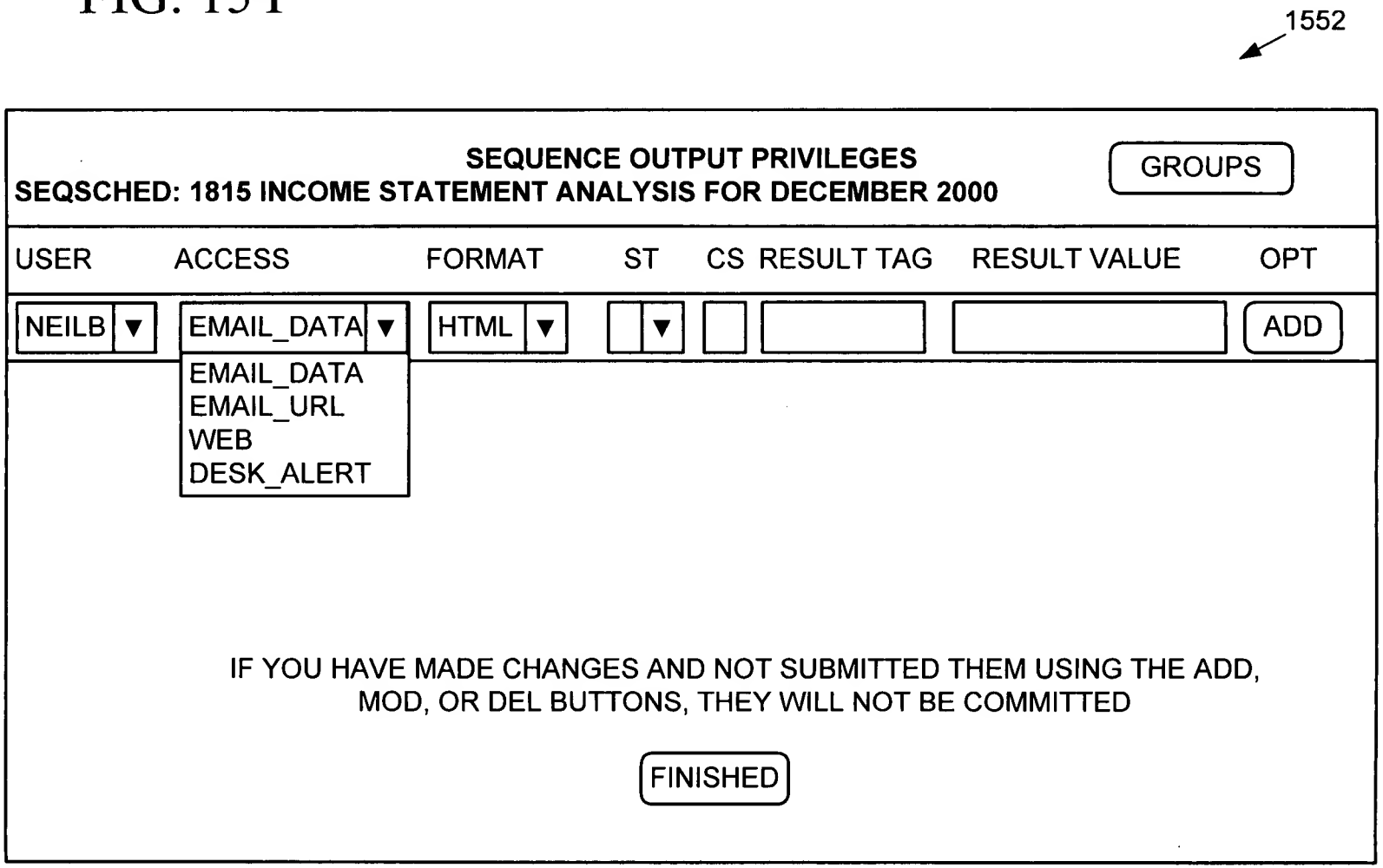
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 44 of 103

FIG. 15X



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 45 of 103

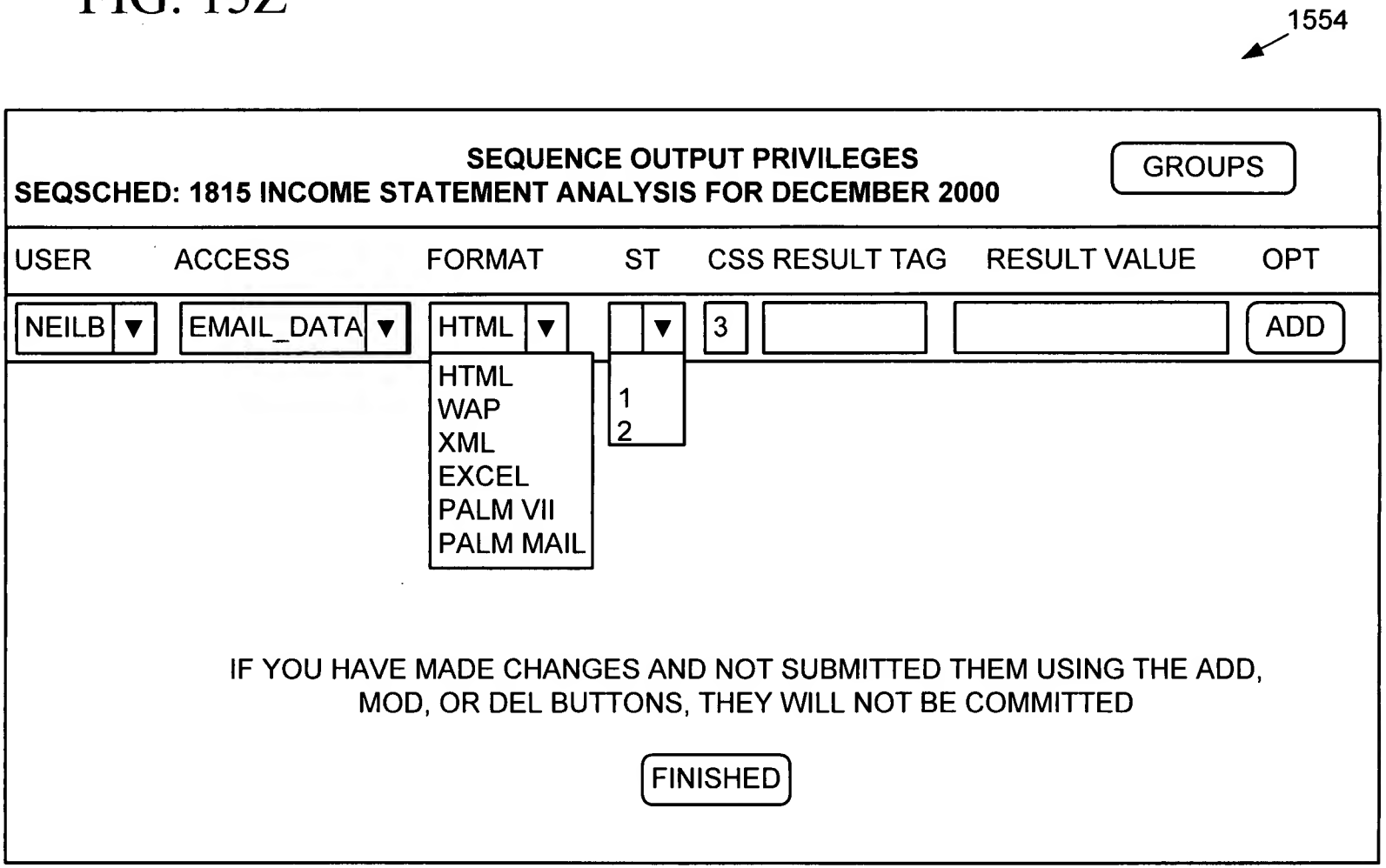
FIG. 15Y



706080 "EOT52660

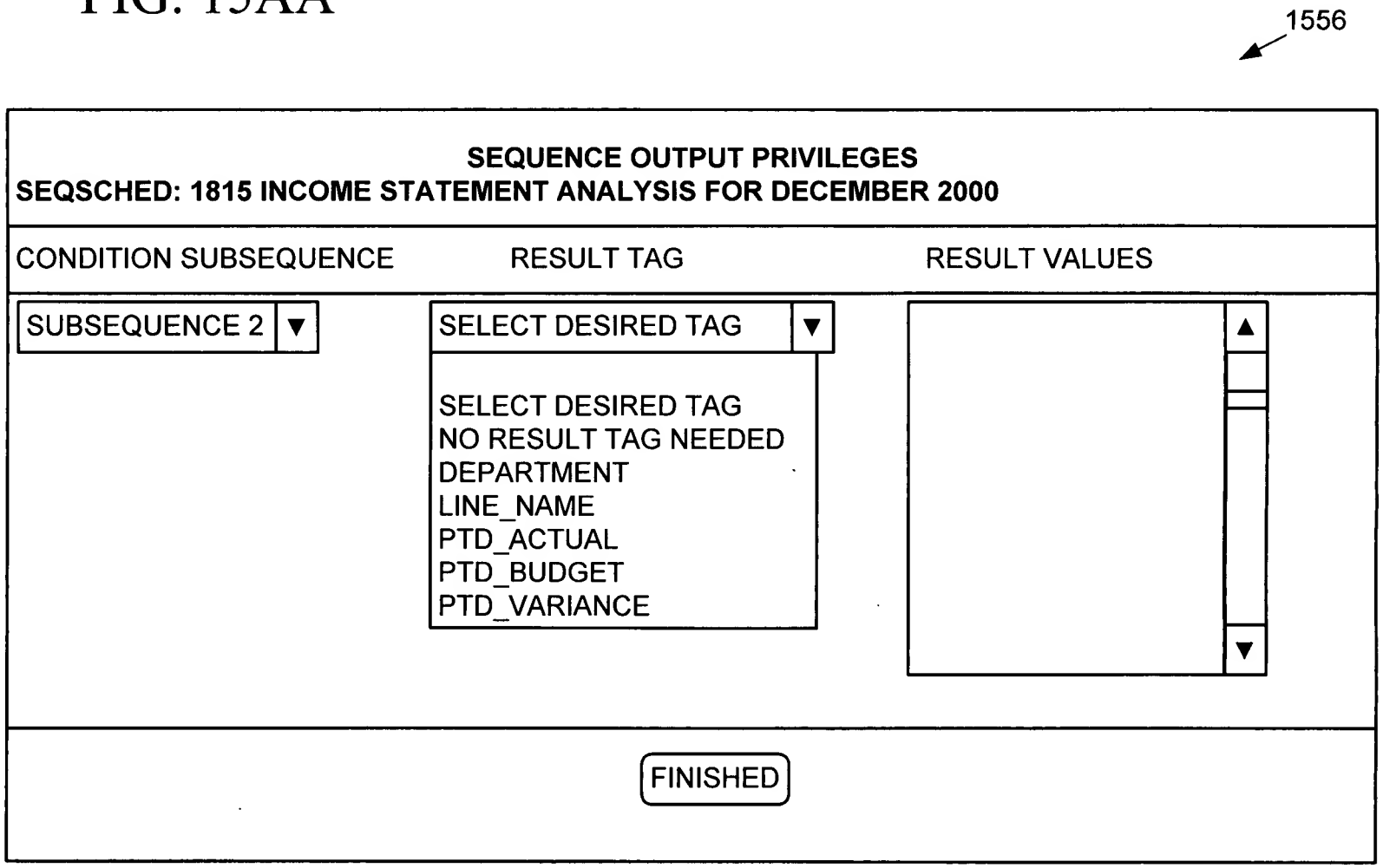
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 46 of 103

FIG. 15Z



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 47 of 103

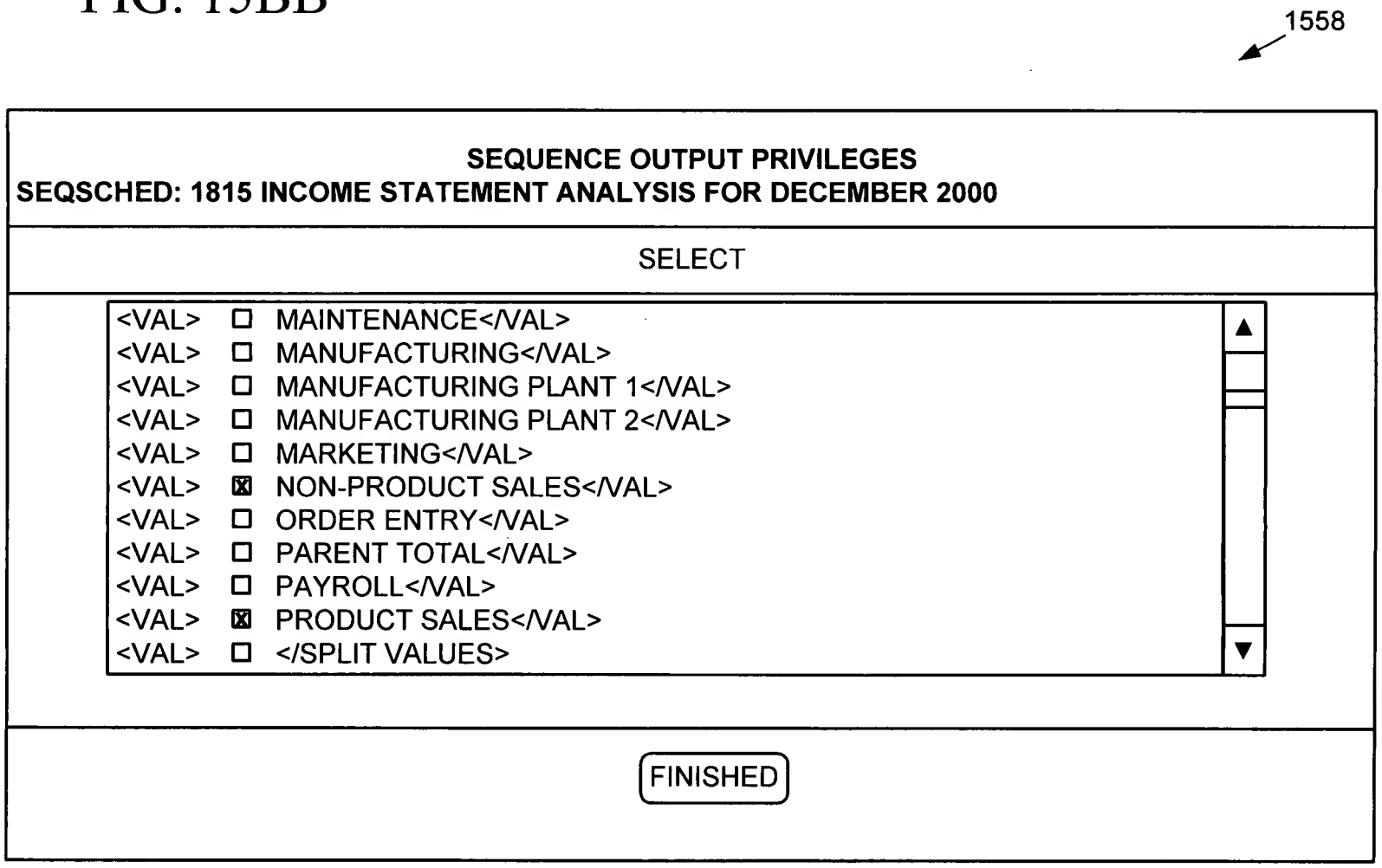
FIG. 15AA



T06080 "EOT52660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 48 of 103

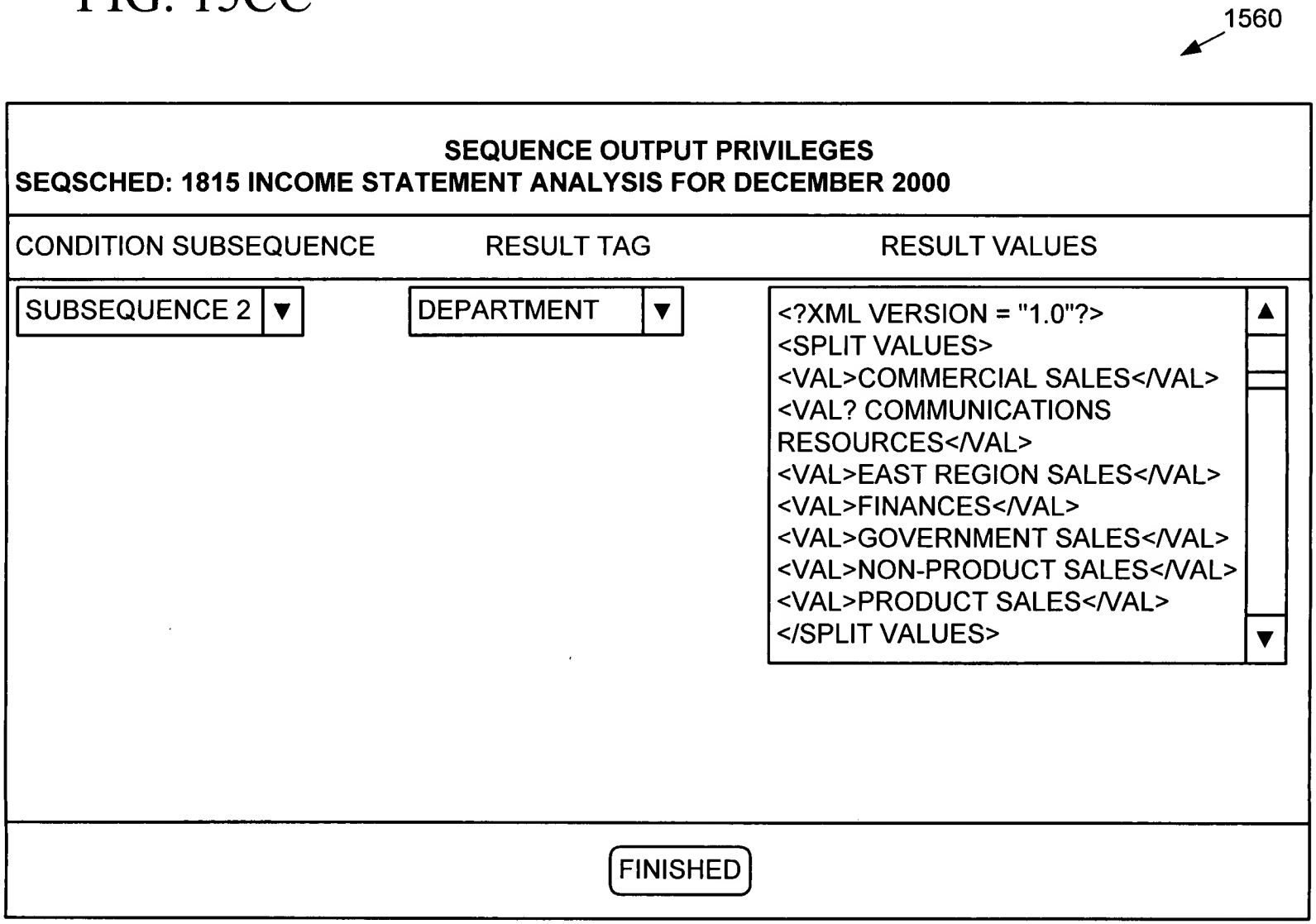
FIG. 15BB



F06080" EOFS2660

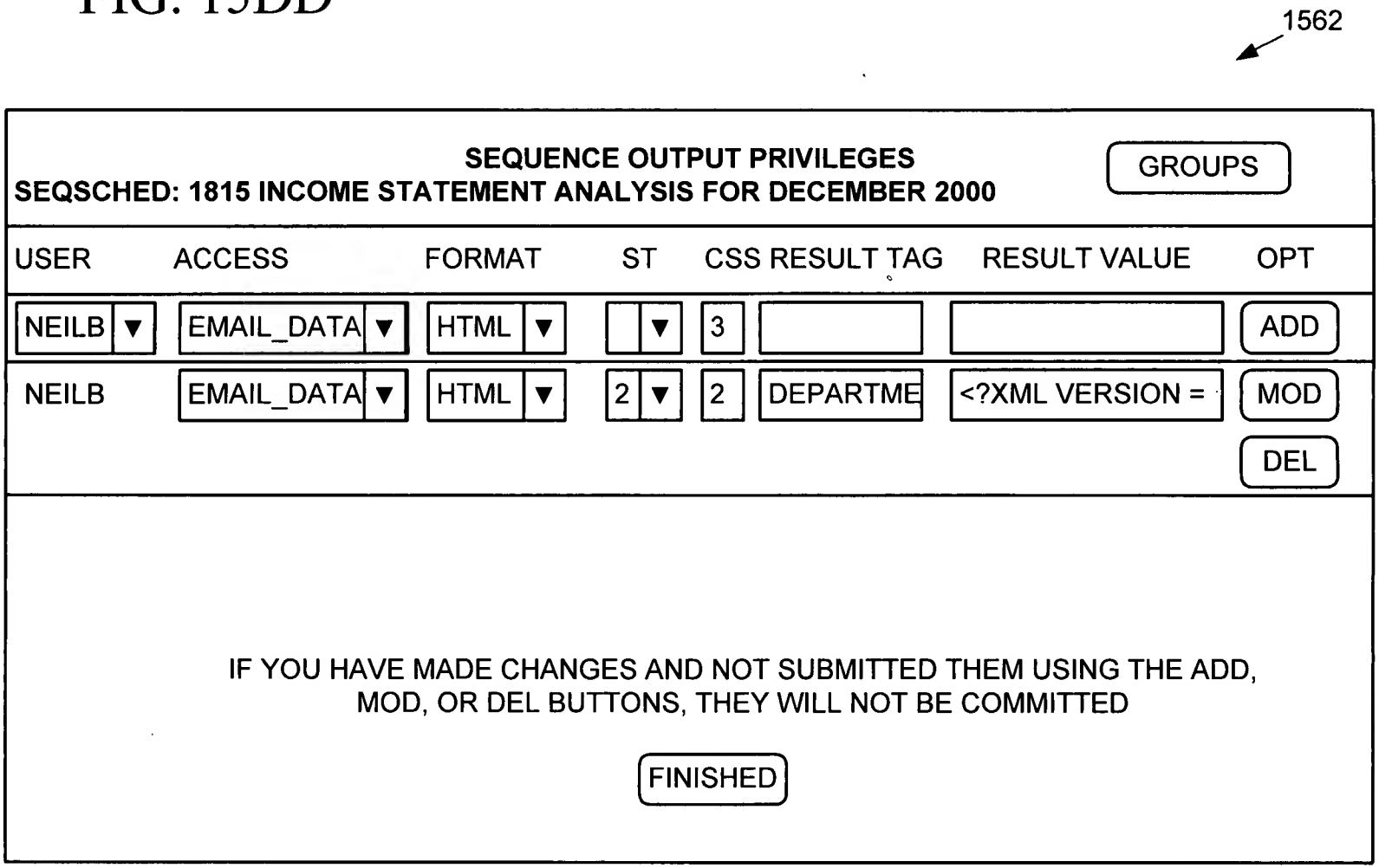
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 49 of 103

FIG. 15CC



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 50 of 103

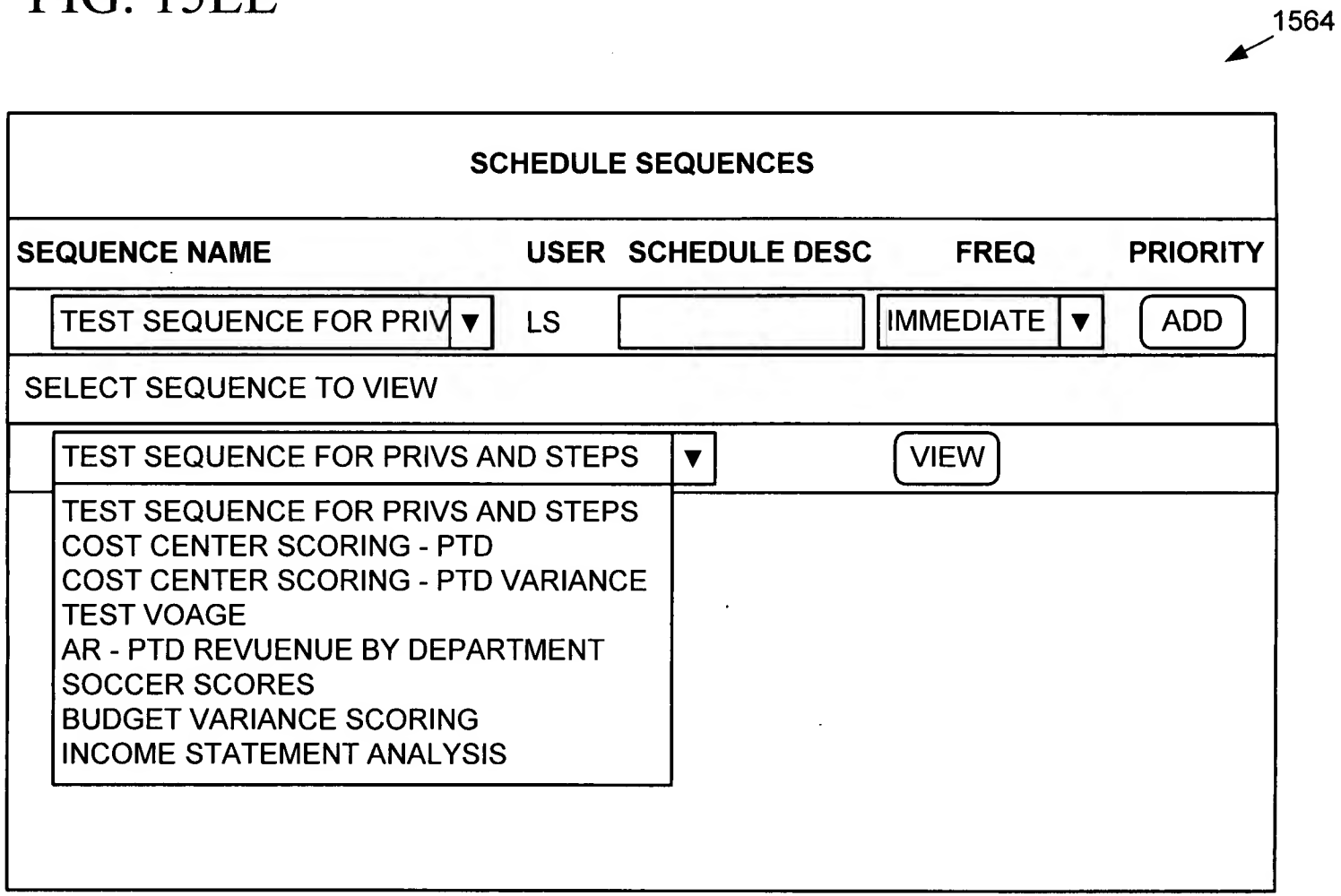
FIG. 15DD



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 51 of 103

T06080" E0TS2660

FIG. 15EE



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 52 of 103

T06080 "EOT52660

FIG. 15FF

1566

SCHEDULE SEQUENCES

SEQUENCE NAME	USER	SCHEDULE DESC	FREQ	PRIORITY
TEST SEQUENCE FOR PRIV ▼	LS		IMMEDIATE ▼	ADD

SELECT SEQUENCE TO VIEW

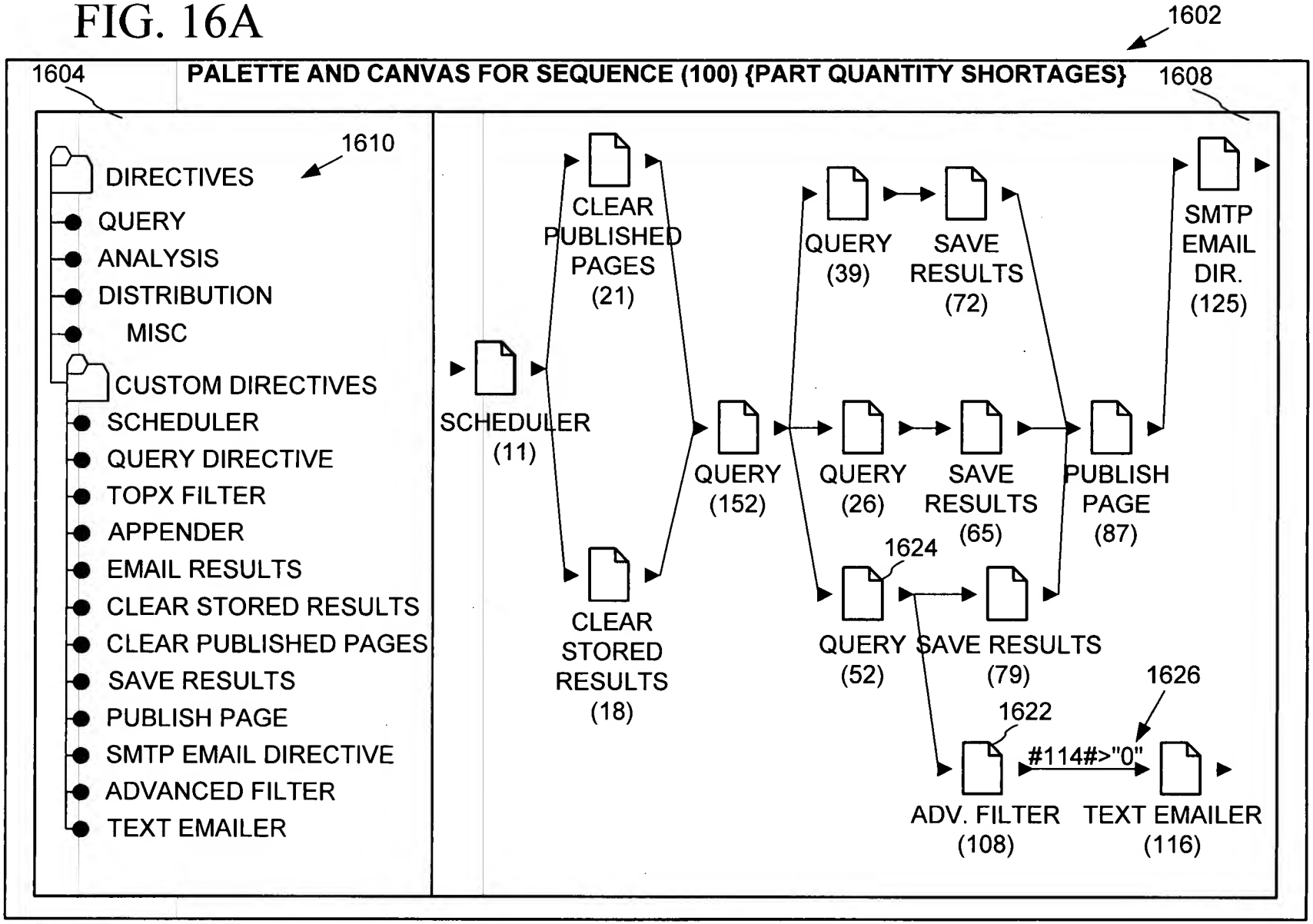
TEST SEQUENCE FOR PRIVS AND STEPS ▼ VIEW

SEQUENCE: INCOME STATEMENT ANALYSIS USER: NB

ID	DESCRIPTION	STATUS	FREQ	START	OPTIONS
1815	INCOME STAT'T ANALYSIS DEC 2001	SCHED	DAILY ▼	23-APR-2001 08:30 PM	MOD
					DEL
					PRIVILEGES

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 53 of 103

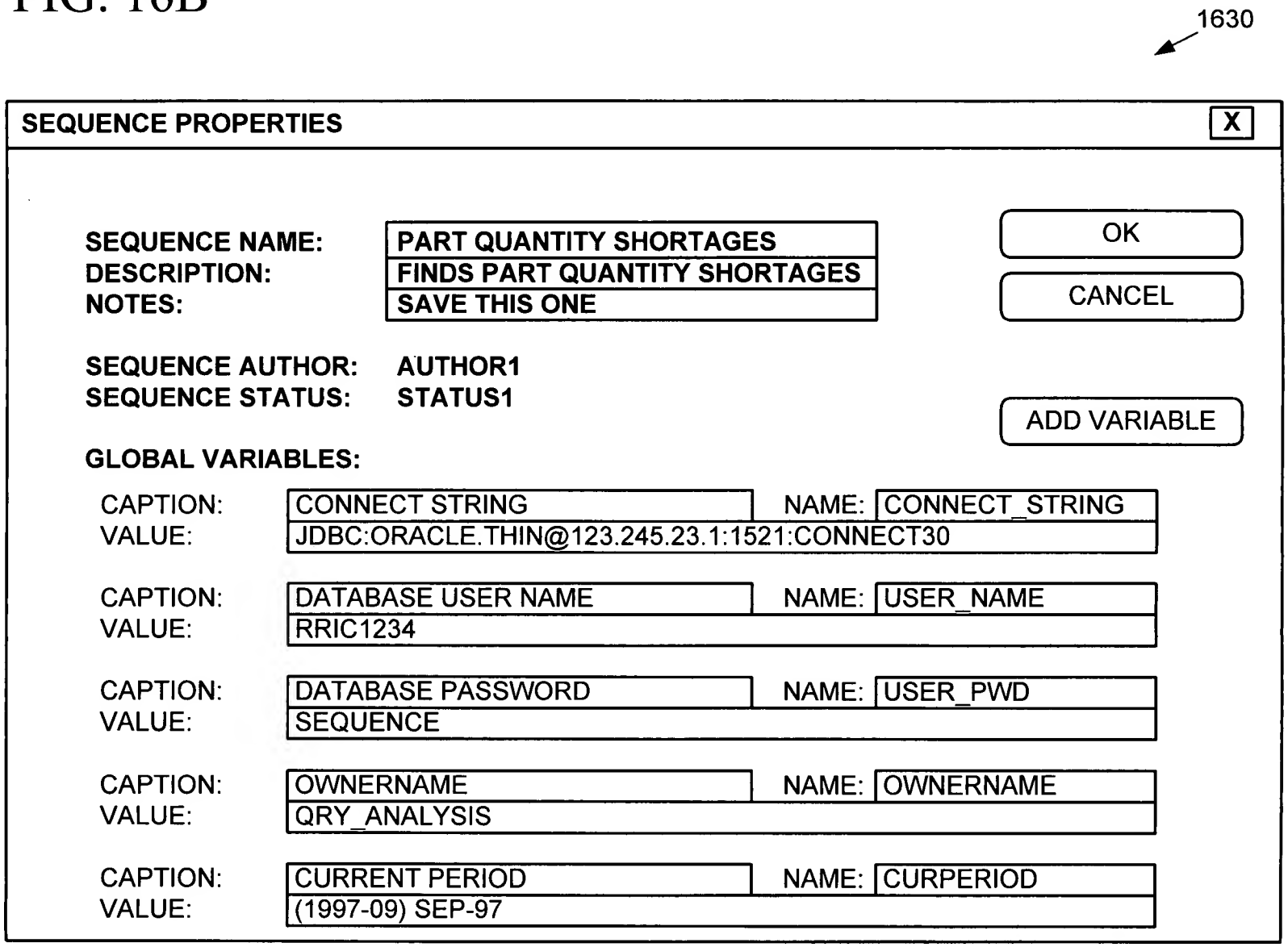
FIG. 16A



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 54 of 103

T06080 "EOTS2660

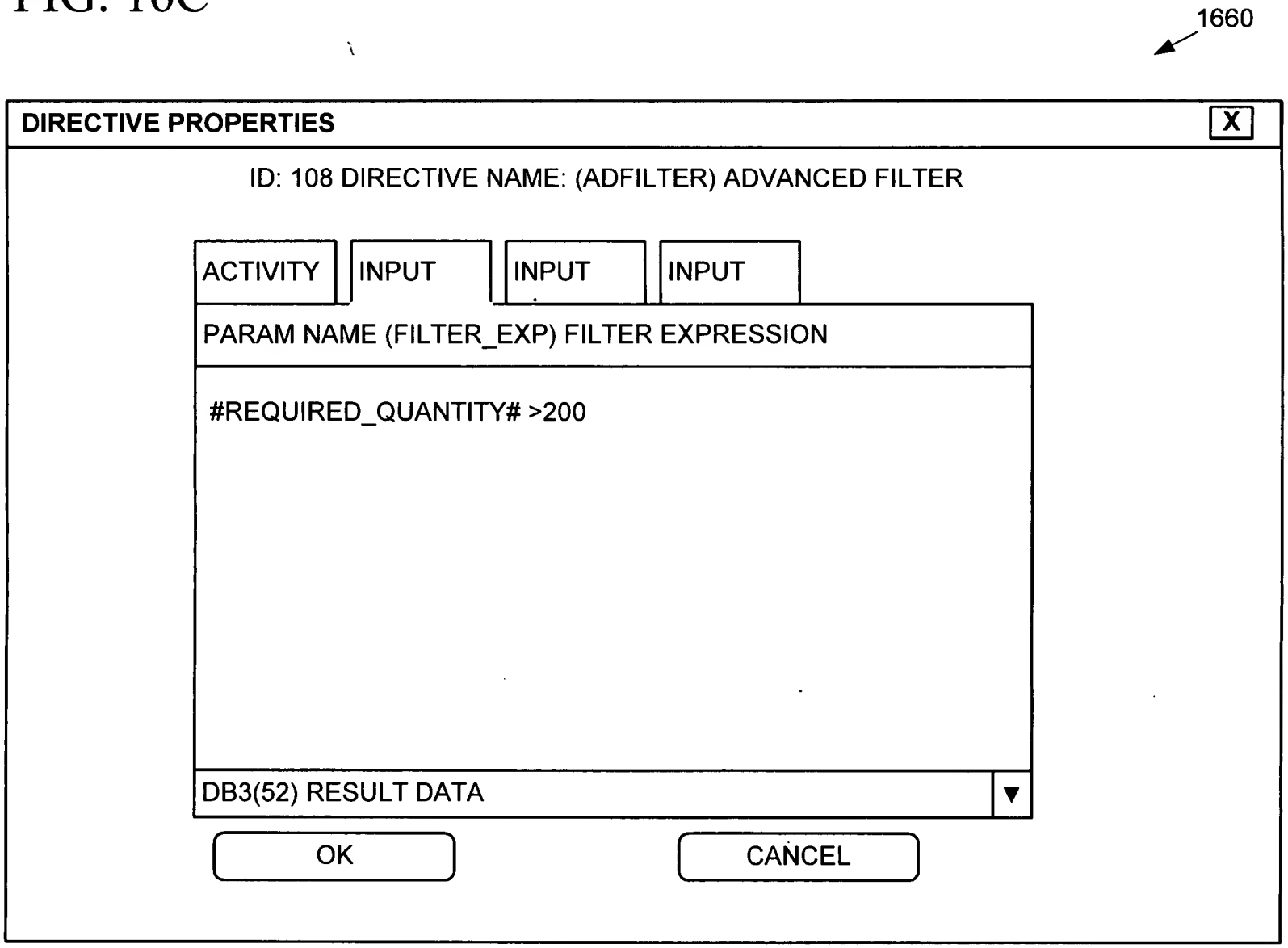
FIG. 16B



F06080 "EOTS2660

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 55 of 103

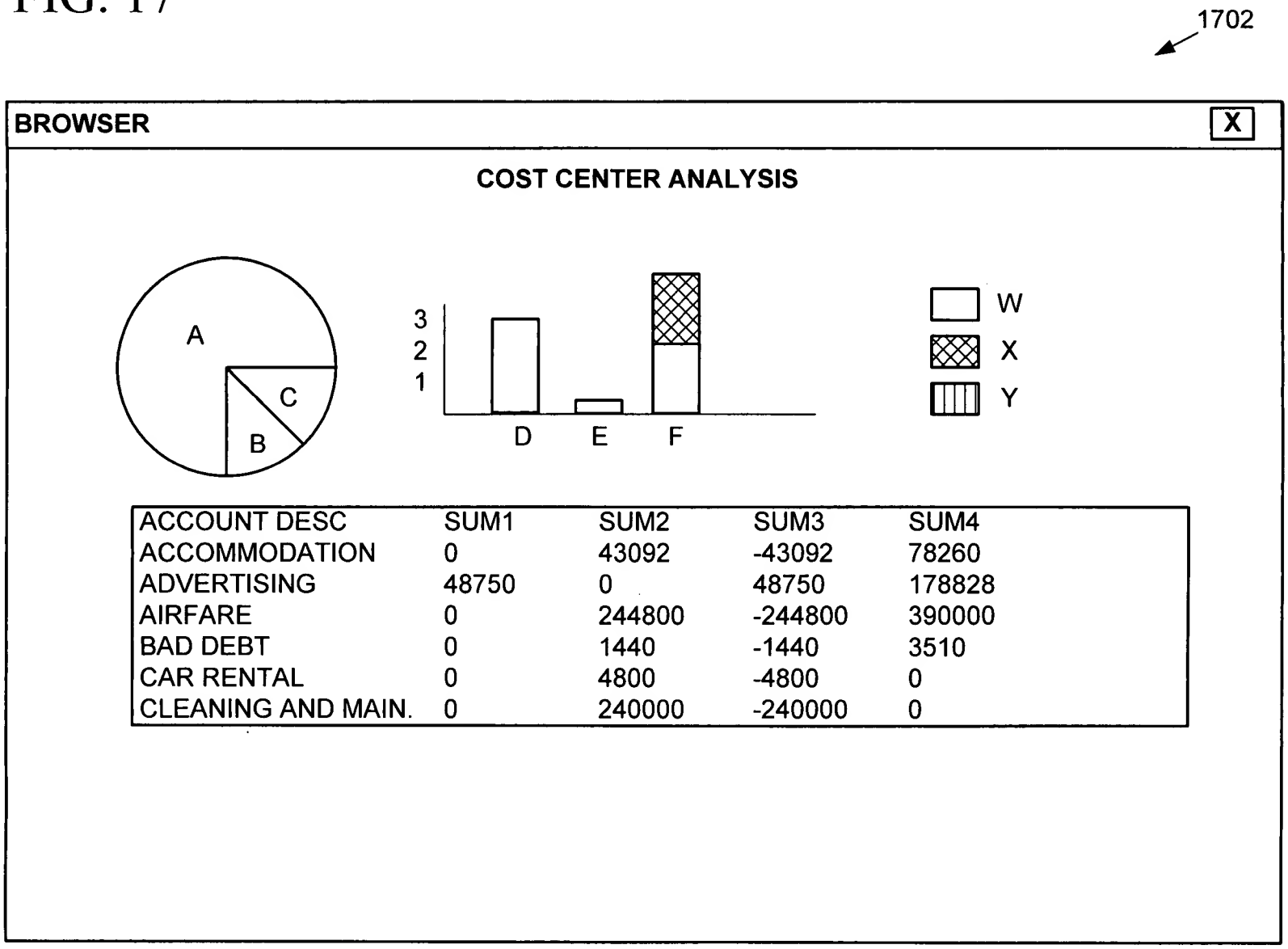
FIG. 16C



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR DEFINING EXECUTABLE SEQUENCES TO PROCESS INFORMATION FROM A DATA COLLECTION, Express Mail No.: EL754021250US, Attorney Docket No.: 6115-60713, Page 56 of 103

T06080"EOTS2660

FIG. 17



ACCOUNT DESC	SUM1	SUM2	SUM3	SUM4
ACCOMMODATION	0	43092	-43092	78260
ADVERTISING	48750	0	48750	178828
AIRFARE	0	244800	-244800	390000
BAD DEBT	0	1440	-1440	3510
CAR RENTAL	0	4800	-4800	0
CLEANING AND MAIN.	0	240000	-240000	0

FIG. 18

1801

```
<DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="DB2" DIRECTIVE_NAME="DATA DIRECTIVE"
THREADING_EFFECT="SPLIT" DIRECTIVE_DESC="SQL DATADIRECTIVE THAT SPLITS
RESULTS ON GIVEN COLUMN" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE_CATEGORY="DPA-MISC">
    <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4"
PORT="9070"/>
    <IN_PARAMETERS>
      <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SQL"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SQL"/>
      <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="COLUMN TO SPLIT"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SPLIT_COLUMN"/>
      <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="CONNECTION STRING"
PARAM_DATA_TYPE="STRING" PARAM_NAME="CONNECTION_STRING"/>
      <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="DATABASE USER NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="USERNAME"/>
      <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="DATABASE PASSWORD"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PWD"/>
    </IN_PARAMETERS>
    <OUT_PARAMETERS>
      <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT DATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET"/>
      <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA"/>
      <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="SPLIT VALUE"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SPLITVALUE"/>
    </OUT_PARAMETERS>
  </DF_DIRECTIVE_DEFINITION>
```

FIG. 19A

1901

```
- <DF_DIRECTIVE_DEFINITION_LIST>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="SB1" DIRECTIVE_NAME="SCHEDULER"
DIRECTIVE_CATEGORY="DPA-MISC" THREADING_EFFECT="SPLIT"
DIRECTIVE_DESC="SCHEDULE DIRECTIVE" DIRECTIVE_VENDOR="DPA"
DIRECTIVE_VERSION="1">
- <!-- CAN ADD A  TYPE OR ICON NAME
 -->
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="FREQUENCY"
PARAM_DATA_TYPE="STRING" PARAM_NAME="FREQUENCY" />
  </IN_PARAMETERS>
  <OUT_PARAMETERS />
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4"
PORT="9070" />
 </DF_DIRECTIVE_DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="DB2" DIRECTIVE_NAME="DATA DIRECTIVE"
THREADING_EFFECT="SPLIT" DIRECTIVE_DESC="SQL DATADIRECTIVE THAT SPLITS
RESULTS ON GIVEN COLUMN" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE_CATEGORY="DPA-MISC">
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /
>
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SQL"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SQL" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="COLUMN TO SPLIT"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SPLIT_COLUMN" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="CONNECTION STRING"
PARAM_DATA_TYPE="STRING" PARAM_NAME="CONNECTION_STRING" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="DATABASE USER NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="USERNAME" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="DATABASE PASSWORD"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PWD" />
  </IN_PARAMETERS>
```

FIG. 19B

1902

```
- <OUT_PARAMETERS>
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT DATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="SPLIT VALUE"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SPLITVALUE" />
  </OUT_PARAMETERS>
  </DF_DIRECTIVE_DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="AB1" DIRECTIVE_NAME="TOPX FILTER"
THREADING_EFFECT="STANDARD" DIRECTIVE_DESC="FILTER OUT TOP X ROWS FROM
RESULTSET" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE_CATEGORY="DPA-MISC">
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4"
PORT="9070" />
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="COLUMN POSITION FOR TOPX"
PARAM_DATA_TYPE="STRING" PARAM_NAME="TOPX_COLUMN" />
  </IN_PARAMETERS>
- <OUT_PARAMETERS>
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT DATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
  </OUT_PARAMETERS>
  </DF_DIRECTIVE_DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="AB2" DIRECTIVE_NAME="APPENDER"
DIRECTIVE_TYPE="" THREADING_EFFECT="JOIN" DIRECTIVE_DESC="REJOIN SPLIT
RESULTSETS" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE_CATEGORY="DPA-MISC">
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /
>
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
  </IN_PARAMETERS>
```

FIG. 19C

1903

```
- <OUT_PARAMETERS>
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT DATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
  </OUT_PARAMETERS>
  </DF_DIRECTIVE_DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="MB1" DIRECTIVE_NAME="EMAIL RESULTS"
THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE="" DIRECTIVE_DESC="SIMPLE
EMAIL DIRECTIVE" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE_CATEGORY="DPA-MISC">
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /
>
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="EMAIL ADDRESS LIST"
PARAM_DATA_TYPE="STRING" PARAM_NAME="MAILADR" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SUBJECT LINE"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SUBJECT" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="MESSAGE DATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="MESSAGE" />
  </IN_PARAMETERS>
  <OUT_PARAMETERS />
  </DF_DIRECTIVE_DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="CRB1" DIRECTIVE_NAME="CLEAR STORED
RESULTS" THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE=""
DIRECTIVE_DESC="REMOVE PREVIOUS RESULT SETS FROM REPOSITORY"
DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1" DIRECTIVE_CATEGORY="DPA-
MISC">
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /
>
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="OWNER ID"
PARAM_DATA_TYPE="STRING" PARAM_NAME="OWNERID" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULTNAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTNAME" />
  </IN_PARAMETERS>
  <OUT_PARAMETERS />
  </DF_DIRECTIVE_DEFINITION>
```

FIG. 19D

1904

```
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="CRC1" DIRECTIVE_NAME="CLEAR
PUBLISHED PAGES" THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE=""
DIRECTIVE_DESC="REMOVE PREVIOUS PUBLISHED PAGES FROM REPOSITORY"
DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1" DIRECTIVE_CATEGORY="DPA-
MISC">
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /
>
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="OWNERID"
PARAM_DATA_TYPE="STRING" PARAM_NAME="OWNERID" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="PAGE NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGENAME" />
  </IN_PARAMETERS>
  <OUT_PARAMETERS />
  </DF_DIRECTIVE_DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="SR1" DIRECTIVE_NAME="SAVE RESULTS"
THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE="" DIRECTIVE_DESC="SAVES
RESULTS TO REPOSITORY" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE_CATEGORY="DPA-MISC">
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /
>
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET OWNER"
PARAM_DATA_TYPE="STRING" PARAM_NAME="OWNER" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTNAME" />
  </IN_PARAMETERS>
- <OUT_PARAMETERS>
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULTSET ID"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSETID" />
  </OUT_PARAMETERS>
  </DF_DIRECTIVE_DEFINITION>
```

FIG. 19E

1905

```
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="CR2" DIRECTIVE_NAME="PUBLISH PAGE"
THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE="" DIRECTIVE_DESC="PUBLISHES
PAGE & GRANTS SECURITY" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE_CATEGORY="DPA-MISC">
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /
>
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="GRANT SECURITY LIST"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SECDOC" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="METADATA FOR SECDOC"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SECMETA" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="GRANT SECURITY LIST"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SECCOLNAME" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="PAGE OWNER"
PARAM_DATA_TYPE="STRING" PARAM_NAME="OWNER" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="PAGE NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGENAME" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="PAGE SLICE NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGESLICENAME" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="PAGE DEFINITION"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGEDEFN" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="IN RESULTS KEY"
PARAM_DATA_TYPE="STRING" PARAM_NAME="P1" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="IN RESULTS KEY"
PARAM_DATA_TYPE="STRING" PARAM_NAME="P2" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="IN RESULTS KEY"
PARAM_DATA_TYPE="STRING" PARAM_NAME="P3" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="IN RESULTS KEY"
PARAM_DATA_TYPE="STRING" PARAM_NAME="P4" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="IN RESULTS KEY"
PARAM_DATA_TYPE="STRING" PARAM_NAME="P5" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="IN RESULTS KEY"
PARAM_DATA_TYPE="STRING" PARAM_NAME="P6" />
  </IN_PARAMETERS>
```

FIG. 19F

1906

```
- <OUT_PARAMETERS>
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="PAGE ID"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGEID" />
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="PAGE OWNER"
PARAM_DATA_TYPE="STRING" PARAM_NAME="OWNER" />
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="PAGE NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGENAME" />
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="PAGE SLICE NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGESLICENAME" />
  </OUT_PARAMETERS>
  </DF_DIRECTIVE_DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="DB3" DIRECTIVE_NAME="DATA DIRECTIVE"
THREADING_EFFECT="STANDARD" DIRECTIVE_DESC="RETRIEVE DATA AND ASSEMBLE
INTO RESULT SET" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE_CATEGORY="DPA-MISC">
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /
>
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SQL"
PARAM_DATA_TYPE="PARAMITERIZED SQL STRING" PARAM_NAME="SQL" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="CONNECTION STRING"
PARAM_DATA_TYPE="STRING" PARAM_NAME="CONNECTION_STRING" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="DATABASE USER NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="USERNAME" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="DATABASE PASSWORD"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PWD" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="P1" PARAM_DATA_TYPE="STRING"
PARAM_NAME="P1" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="P2" PARAM_DATA_TYPE="STRING"
PARAM_NAME="P2" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="P3" PARAM_DATA_TYPE="STRING"
PARAM_NAME="P3" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="P4" PARAM_DATA_TYPE="STRING"
PARAM_NAME="P4" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="P5" PARAM_DATA_TYPE="STRING"
PARAM_NAME="P5" />
  </IN_PARAMETERS>
```

FIG. 19G

1907

```
- <OUT_PARAMETERS>
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT DATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
  </OUT_PARAMETERS>
  </DF_DIRECTIVE_DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="MB2" DIRECTIVE_NAME="SMTP EMAIL
DIRECTIVE" THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE=""
DIRECTIVE_DESC="SEND PUBLISHED PAGES" DIRECTIVE_VENDOR="DPA"
DIRECTIVE_VERSION="1" DIRECTIVE_CATEGORY="DPA-MISC">
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /
>
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="EMAIL ADDRESSES"
PARAM_DATA_TYPE="STRING" PARAM_NAME="ADDRDOC" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="METADATA FOR ADDRDOC"
PARAM_DATA_TYPE="STRING" PARAM_NAME="ADDRMETA" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="EMAIL COLUMN NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="ADDRCOLNAME" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="EMAIL COLUMN NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="IDCOLNAME" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SUBJECT"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SUBJECT" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="PAGE OWNER"
PARAM_DATA_TYPE="STRING" PARAM_NAME="OWNER" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="PAGE NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGENAME" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="PAGE INSTANCE"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGEINST" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="MAIL FORMAT"
PARAM_DATA_TYPE="STRING" PARAM_NAME="FORMAT" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SEND FROM MAIL ADDRESS"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SENDFROM" />
  </IN_PARAMETERS>
```

FIG. 19H

1908

```
- <OUT_PARAMETERS>
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="ERROR MESSAGES"
PARAM_DATA_TYPE="STRING" PARAM_NAME="ERROR_MSG" />
  </OUT_PARAMETERS>
  </DF_DIRECTIVE_DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="ABFILTER" DIRECTIVE_NAME="ADVANCED
FILTER" THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE=""
DIRECTIVE_DESC="FILTER RESULTS" DIRECTIVE_VENDOR="DPA"
DIRECTIVE_VERSION="1" DIRECTIVE_CATEGORY="DPA-MISC">
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /
>
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="FILTER EXPRESSION"
PARAM_DATA_TYPE="STRING" PARAM_NAME="FILTER_EXP" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULTS METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="METADOC" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULTS"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSDOC" />
  </IN_PARAMETERS>
- <OUT_PARAMETERS>
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULTS METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="METADOC" />
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULTS"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSDOC" />
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="ROW COUNT"
PARAM_DATA_TYPE="STRING" PARAM_NAME="ROWCOUNT" />
  </OUT_PARAMETERS>
  </DF_DIRECTIVE_DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="TEXTEMAILER" DIRECTIVE_NAME="TEXT
EMAILER" THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE=""
DIRECTIVE_DESC="TEXT EMAILER" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE_CATEGORY="DPA-MISC">
  <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /
>
```

FIG. 19I

1909

```
- <IN_PARAMETERS>
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SUBJECT EXPRESSION"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SUBJECT_EXP" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="MESSAGE EXPRESSION"
PARAM_DATA_TYPE="STRING" PARAM_NAME="MESSAGE_EXP" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="EMAIL ADDRESSES"
PARAM_DATA_TYPE="STRING" PARAM_NAME="EMAIL_ADDRESSES" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SEND FROM ADDRESS"
PARAM_DATA_TYPE="STRING" PARAM_NAME="FROM_ADDRESS" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULTS METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="METADOC" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULTS"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSDOC" />
 </IN_PARAMETERS>
 <OUT_PARAMETERS>
  <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="ERROR MESSAGES"
PARAM_DATA_TYPE="STRING" PARAM_NAME="ERROR" />
 </OUT_PARAMETERS>
</DF_DIRECTIVE_DEFINITION>
</DF_DIRECTIVE_DEFINITION_LIST>
```

FIG. 20A

2001

```
- <RESULTS_DOC>
- <DP_QUERY_DEF VERSION="1">
 <DPA_IDENTIFIERS DATA_SET="NW" WH_OWNER_NAME="RROC" />
 <HINTS />
- <COLUMN_DEFS>
 <COLUMN_DEF COLUMN_SORT_ATTRIBUTE="NONE"
COLUMN_TEXT="VENDOR_NAME" TABLE_ALIAS="VENDOR_D"
COLUMN_NAME="VENDOR_NAME" COLUMN_ALIAS="VENDOR_NAME"
COLUMN_SORT_ORDER="1" COLUMN_POSITION="1"
COLUMN_TYPE="GROUP_BY" />
 <COLUMN_DEF COLUMN_SORT_ATTRIBUTE="NONE"
COLUMN_TEXT="PERIOD_KEY" TABLE_ALIAS="AP_INV_DETAIL_F"
COLUMN_NAME="PERIOD_KEY" COLUMN_ALIAS="PERIOD_KEY"
COLUMN_SORT_ORDER="2" COLUMN_POSITION="2"
COLUMN_TYPE="GROUP_BY" />
 <COLUMN_DEF COLUMN_SORT_ATTRIBUTE="DESC"
COLUMN_TEXT="SUM(AP_INV_DETAIL_F.INVOICE_LINE_AMOUNT)"
TABLE_ALIAS="AP_INV_DETAIL_F"
COLUMN_NAME="INVOICE_LINE_AMOUNT"
COLUMN_ALIAS="SUM_INVOICE_LINE_AMOUNT"
COLUMN_SORT_ORDER="3" COLUMN_POSITION="3"
COLUMN_TYPE="AGGREGATE" />
 </COLUMN_DEFS>
- <TABLE_DEFS>
 <TABLE_DEF TABLE_ALIAS="AP_INV_DETAIL_F"
TABLE_NAME="AP_INV_DETAIL_F" />
 <TABLE_DEF TABLE_ALIAS="VENDOR_D" TABLE_NAME="VENDOR_D" /
>
 </TABLE_DEFS>
- <DETAIL_FILTERS>
- <FILTER FILTER_TYPE="VALUE" COLUMN_TEXT="VENDOR_TYPE"
TABLE_ALIAS="VENDOR_D" FILTER_PREC_OPER="AND"
FILTER_OPERATOR="=">
 <FILTER_VALUE VALUE_DATA_TYPE="STRING">EMPLOYEE</
FILTER_VALUE>
 </FILTER>
```

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FIG. 20B

2002

```
- <FILTER FILTER_TYPE="VALUE" COLUMN_TEXT="COMPANY_KEY"
TABLE_ALIAS="AP_INV_DETAIL_F" FILTER_PREC_OPER="AND"
FILTER_OPERATOR="=">
 <FILTER_VALUE VALUE_DATA_TYPE="STRING">01</FILTER_VALUE>
 </FILTER>
 </DETAIL_FILTERS>
- <AGGREGATE_FILTERS>
- <FILTER FILTER_TYPE="VALUE"
COLUMN_TEXT="SUM(INVOICE_LINE_AMOUNT)"
TABLE_ALIAS="AP_INV_DETAIL_F" FILTER_PREC_OPER="AND"
FILTER_OPERATOR=">">
 <FILTER_VALUE VALUE_DATA_TYPE="NUMBER">0</FILTER_VALUE>
 </FILTER>
 </AGGREGATE_FILTERS>
 </DP_QUERY_DEF>
 <DPA_QUERY_SERVER_INFO SERVICE="DPA_QUERY_SERVER"
MACHINE="EXH_2K" PORT="8069"
WAREHOUSE_SERVER="HD.DPAPPLICATIONS.COM"
WAREHOUSE_DBNAME="DEMO30"
WAREHOUSE_OWNER="RROC">FOODADDY</
DPA_QUERY_SERVER_INFO>
- <DP_DS_METADATA>
 <DP_COLUMN COLUMN_NAME="VENDOR_NAME"
COLUMN_DATA_TYPE="VARCHAR2" COLUMN_DS_ALIAS="C1"
COLUMN_TYPE="GROUP_BY" COLUMN_SORT_ATTRIBUTE="NONE"
COLUMN_SOURCE_ALIAS="VENDOR_NAME"
COLUMN_LABEL="VENDOR NAME" COLUMN_DESC=""
COLUMN_IS_CURRENCY="N" />
 <DP_COLUMN COLUMN_NAME="PERIOD_KEY"
COLUMN_DATA_TYPE="VARCHAR2" COLUMN_DS_ALIAS="C2"
COLUMN_TYPE="GROUP_BY" COLUMN_SORT_ATTRIBUTE="NONE"
COLUMN_SOURCE_ALIAS="PERIOD_KEY" COLUMN_LABEL="PERIOD
KEY" COLUMN_DESC="" COLUMN_IS_CURRENCY="N" />
 <DP_COLUMN COLUMN_NAME="SUM_INVOICE_LINE_AMOUNT"
COLUMN_DATA_TYPE="NUMBER" COLUMN_DS_ALIAS="C3"
COLUMN_TYPE="AGGREGATE" COLUMN_SORT_ATTRIBUTE="DESC"
COLUMN_SOURCE_ALIAS="SUM_INVOICE_LINE_AMOUNT"
COLUMN_LABEL="INVOICE LINE AMOUNT" COLUMN_DESC=""
COLUMN_IS_CURRENCY="Y" />
```

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FIG. 20C

2003

```
</DP_DS_METADATA>
- <DP_DS>
- <R>
<C1>JAMIE FROST</C1>
<C2>DEC-97</C2>
<C3>28159</C3>
</R>
- <R>
<C1>JAMIE FROST</C1>
<C2>JAN-98</C2>
<C3>15114.76</C3>
</R>
- <R>
<C1>JAMIE FROST</C1>
<C2>FEB-98</C2>
<C3>4417.86</C3>
</R>
- <R>
<C1>KERRY JONES</C1>
<C2>APR-98</C2>
<C3>3439.10</C3>
</R>
- <R>
<C1>KERRY JONES</C1>
<C2>DEC-97</C2>
<C3>3263</C3>
</R>
- <R>
<C1>JAMIE FROST</C1>
<C2>NOV-97</C2>
<C3>2907.85</C3>
</R>
- <R>
<C1>KERRY JONES</C1>
<C2>FEB-98</C2>
<C3>2799.31</C3>
</R>
```

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FIG. 20D

2004

```
- <R>
  <C1>KERRY JONES</C1>
  <C2>MAY-98</C2>
  <C3>2698.64</C3>
  </R>
- <R>
  <C1>JAMIE FROST</C1>
  <C2>APR-98</C2>
  <C3>2657.20</C3>
  </R>
- <R>
  <C1>JAMIE FROST</C1>
  <C2>MAY-98</C2>
  <C3>2549.68</C3>
  </R>
- <R>
  <C1>KERRY JONES</C1>
  <C2>MAR-98</C2>
  <C3>2511.98</C3>
  </R>
- <R>
  <C1>JAMIE FROST</C1>
  <C2>MAR-98</C2>
  <C3>2459.87</C3>
  </R>
- <R>
  <C1>JAMIE FROST</C1>
  <C2>JUN-98</C2>
  <C3>2219.90</C3>
  </R>
- <R>
  <C1>KERRY JONES</C1>
  <C2>JUN-98</C2>
  <C3>2182.29</C3>
  </R>
- <R>
  <C1>KERRY JONES</C1>
  <C2>JAN-98</C2>
  <C3>1516</C3>
  </R>
```

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FIG. 20E

2005

```
- <R>
  <C1>BLACK, CHRIS</C1>
  <C2>NOV-97</C2>
  <C3>651.06</C3>
  </R>
  </DP_DS>
  </RESULTS_DOC>
```

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FIG. 21A

2101

```
- <DF_WORKFLOW VERSION="1">
  <DF_WORKFLOW_HEADER DF_EDITOR_MAX_ID="172" FLOW_NAME="QTY ANALYSIS"
FLOW_DESCRIPTION="QTY ANALYSIS FLOW" FLOW_STATUS="FLOW STATUS"
FLOW_NOTES="" FLOW_AUTHOR="FLOW AUTHOR" />
- <DF_WORKFLOW_PARAMETERS>
- <PARAMETER NODE_ID="13" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="CONNECT STRING" PARAM_NAME="CONNECT_STRING"
PARAM_TYPE="OUT">
  <PARAM_SOURCE
PARAM_TYPE="VALUE">JDBC:ORACLE:THIN:@172.16.1.34:1521:DEMO30</
PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="14" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="DATABASE USER NAME" PARAM_NAME="USER_NAME"
PARAM_TYPE="OUT">
  <PARAM_SOURCE PARAM_TYPE="VALUE">RROC609</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="15" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="DATABASE PASSWORD" PARAM_NAME="USER_PWD"
PARAM_TYPE="OUT">
  <PARAM_SOURCE PARAM_TYPE="VALUE">DPA</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="16" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="OWNERNAME" PARAM_NAME="OWNERNAME" PARAM_TYPE="OUT">
  <PARAM_SOURCE PARAM_TYPE="VALUE">QTY_ANALYSIS</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="17" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="CURRENT PERIOD" PARAM_NAME="CURRPERIOD"
PARAM_TYPE="OUT">
  <PARAM_SOURCE PARAM_TYPE="VALUE">(1997-09) SEP-97</PARAM_SOURCE>
  </PARAMETER>
  </DF_WORKFLOW_PARAMETERS>
- <DF_WORKFLOW_ACTIVITIES>
- <ACTIVITY NODE_ID="11">
  <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"
ACTIVITY_DESCRIPTION="ACTIVITY DESCRIPTION" />
  <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA"
DIRECTIVE_NAME="SCHEDULER" THREADING_EFFECT="SPLIT" DIRECTIVE_ID="SB1"
DIRECTIVE_VERSION="1" DIRECTIVE_DESC="SCHEDULE DIRECTIVE" />
```

FIG. 21B

2102


```
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="12" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="FREQUENCY" PARAM_NAME="FREQUENCY" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">0</PARAM_SOURCE>
 </PARAMETER>
 </ACTIVITY_IN_PARAMETERS>
 <ACTIVITY_OUT_PARAMETERS />
 </ACTIVITY>
- <ACTIVITY NODE_ID="18">
 <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"
ACTIVITY_DESCRIPTION="ACTIVITY DESCRIPTION" />
 <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA" DIRECTIVE_NAME="CLEAR
STORED RESULTS" THREADING_EFFECT="STANDARD" DIRECTIVE_ID="CRB1"
DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1" DIRECTIVE_DESC="REMOVE PREVIOUS
RESULT SETS FROM REPOSITORY" />
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="19" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="OWNER
ID" PARAM_NAME="OWNERID" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">16</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="20" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="RESULTNAME" PARAM_NAME="RESULTNAME" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">*</PARAM_SOURCE>
 </PARAMETER>
 </ACTIVITY_IN_PARAMETERS>
 <ACTIVITY_OUT_PARAMETERS />
 </ACTIVITY>
- <ACTIVITY NODE_ID="21">
 <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"
ACTIVITY_DESCRIPTION="ACTIVITY DESCRIPTION" />
 <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA" DIRECTIVE_NAME="CLEAR
PUBLISHED PAGES" THREADING_EFFECT="STANDARD" DIRECTIVE_ID="CRC1"
DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1" DIRECTIVE_DESC="REMOVE PREVIOUS
PUBLISHED PAGES FROM REPOSITORY" />
```

FIG. 21C

2103

```
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="22" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="OWNERID" PARAM_NAME="OWNERID" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">16</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="23" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE
NAME" PARAM_NAME="PAGENAME" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">*</PARAM_SOURCE>
 </PARAMETER>
 </ACTIVITY_IN_PARAMETERS>
 <ACTIVITY_OUT_PARAMETERS />
 </ACTIVITY>
- <ACTIVITY NODE_ID="26">
 <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"
ACTIVITY_DESCRIPTION="DETAIL QUERY" />
 <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA" DIRECTIVE_NAME="DATA
DIRECTIVE" THREADING_EFFECT="STANDARD" DIRECTIVE_ID="DB3"
DIRECTIVE_VERSION="1" DIRECTIVE_DESC="RETRIEVE DATA AND ASSEMBLE INTO
RESULT SET" />
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="27" PARAM_DATA_TYPE="PARAMITERIZED SQL STRING"
PARAM_CAPTION="SQL" PARAM_NAME="SQL" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">SELECT
NW_COMPONENT_ITEM_D.COMPONENT_ITEM_DESC
COMPONENT_ITEM_DESC,SUM(NW_DISC_SHORTAGE_F.QUANTITY_ISSUED)
QUANTITY_ISSUED,SUM(NW_DISC_SHORTAGE_F.QUANTITY_ON_HAND)
QUANTITY_ON_HAND,SUM(NW_DISC_SHORTAGE_F.QUANTITY_SHORT)
QUANTITY_SHORT,SUM(NW_DISC_SHORTAGE_F.REQUIRED_QUANTITY)
REQUIRED_QUANTITY FROM NW_COMPONENT_ITEM_D_0
NW_COMPONENT_ITEM_D,NW_DISC_SHORTAGE_F_0
NW_DISC_SHORTAGE_F,NW_ORG_PERIOD_D_0
NW_ORG_PERIOD_D,NW_WIP_ENTITY_D_0 NW_WIP_ENTITY_D WHERE
NW_DISC_SHORTAGE_F.COMPONENT_ITEM_KEY =
NW_COMPONENT_ITEM_D.COMPONENT_ITEM_KEY AND
NW_DISC_SHORTAGE_F.ORG_PERIOD_KEY = NW_ORG_PERIOD_D.ORG_PERIOD_KEY
AND NW_DISC_SHORTAGE_F.WIP_ENTITY_KEY =NW_WIP_ENTITY_D.WIP_ENTITY_KEY
AND NW_ORG_PERIOD_D.ORG_PERIOD = '#P1#' GROUP BY
NW_COMPONENT_ITEM_D.COMPONENT_ITEM_DESC HAVING
SUM(NW_DISC_SHORTAGE_F.REQUIRED_QUANTITY) > 0 ORDER BY
REQUIRED_QUANTITY DESC, COMPONENT_ITEM_DESC,REQUIRED_QUANTITY,
QUANTITY_ISSUED, QUANTITY_SHORT, QUANTITY_ON_HAND</PARAM_SOURCE>
 </PARAMETER>
```

FIG. 21D

2104

```
- <PARAMETER NODE_ID="28" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="CONNECTION STRING" PARAM_NAME="CONNECTION_STRING"
PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="29" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="DATABASE USER NAME" PARAM_NAME="USERNAME"
PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">14</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="30" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="DATABASE PASSWORD" PARAM_NAME="PWD" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">15</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="31" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P1"
PARAM_NAME="P1" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">17</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="32" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P2"
PARAM_NAME="P2" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="33" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P3"
PARAM_NAME="P3" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="34" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P4"
PARAM_NAME="P4" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="35" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P5"
PARAM_NAME="P5" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
  </PARAMETER>
  </ACTIVITY_IN_PARAMETERS>
```

FIG. 21E

2105


```
- <ACTIVITY_OUT_PARAMETERS>
- <PARAMETER NODE_ID="36" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT DATA" PARAM_NAME="RESULTSET" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
- <PARAMETER NODE_ID="37" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT METADATA" PARAM_NAME="RESULTMETADATA" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
 </ACTIVITY_OUT_PARAMETERS>
 </ACTIVITY>
- <ACTIVITY NODE_ID="39">
 <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES" ACTIVITY_DESCRIPTION="TREND QUERY" />
 <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA" DIRECTIVE_NAME="DATA DIRECTIVE" THREADING_EFFECT="STANDARD" DIRECTIVE_ID="DB3" DIRECTIVE_VERSION="1" DIRECTIVE_DESC="RETRIEVE DATA AND ASSEMBLE INTO RESULT SET" />
 <ACTIVITY_IN_PARAMETERS>
 <PARAMETER NODE_ID="40" PARAM_DATA_TYPE="PARAMITERIZED SQL STRING" PARAM_CAPTION="SQL" PARAM_NAME="SQL" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">SELECT NW_ORG_PERIOD_D.ORG_PERIOD PERIOD_NAME,SUM(NW_DISC_SHORTAGE_F.QUANTITY_ISSUED) QUANTITY_ISSUED,SUM(NW_DISC_SHORTAGE_F.QUANTITY_ON_HAND) QUANTITY_ON_HAND,SUM(NW_DISC_SHORTAGE_F.QUANTITY_SHORT) QUANTITY_SHORT,SUM(NW_DISC_SHORTAGE_F.REQUIRED_QUANTITY) REQUIRED_QUANTITY FROM NW_DISC_SHORTAGE_F_0 NW_DISC_SHORTAGE_F, NW_ORG_PERIOD_D_0 NW_ORG_PERIOD_D WHERE NW_DISC_SHORTAGE_F.ORG_PERIOD_KEY = NW_ORG_PERIOD_D.ORG_PERIOD_KEY GROUP BY NW_ORG_PERIOD_D.ORG_PERIOD ORDER BY PERIOD_NAME DESC</ PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="41" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="CONNECTION STRING" PARAM_NAME="CONNECTION_STRING" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
```

FIG. 21F

2106


```
- <PARAMETER NODE_ID="42" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="DATABASE USER NAME" PARAM_NAME="USERNAME"
PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">14</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="43" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="DATABASE PASSWORD" PARAM_NAME="PWD" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">15</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="44" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P1"
PARAM_NAME="P1" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">17</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="45" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P2"
PARAM_NAME="P2" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="46" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P3"
PARAM_NAME="P3" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="47" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P4"
PARAM_NAME="P4" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="48" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P5"
PARAM_NAME="P5" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
 </ACTIVITY_IN_PARAMETERS>
- <ACTIVITY_OUT_PARAMETERS>
- <PARAMETER NODE_ID="49" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
DATA" PARAM_NAME="RESULTSET" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
- <PARAMETER NODE_ID="50" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
METADATA" PARAM_NAME="RESULTMETADATA" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
 </ACTIVITY_OUT_PARAMETERS>
 </ACTIVITY>
```

FIG. 21G

2107

```
- <ACTIVITY NODE_ID="52">
  <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"
ACTIVITY_DESCRIPTION="SUMMARY QUERY" />
  <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA" DIRECTIVE_NAME="DATA
DIRECTIVE" THREADING_EFFECT="STANDARD" DIRECTIVE_ID="DB3"
DIRECTIVE_VERSION="1" DIRECTIVE_DESC="RETRIEVE DATA AND ASSEMBLE INTO
RESULT SET" />
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="53" PARAM_DATA_TYPE="PARAMITERIZED SQL STRING"
PARAM_CAPTION="SQL" PARAM_NAME="SQL" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="VALUE">SELECT
NW_COMPONENT_ITEM_D.COMPONENT_ITEM_DESC
COMPONENT_ITEM_DESC,SUM(NW_DISC_SHORTAGE_F.QUANTITY_ISSUED)
QUANTITY_ISSUED,SUM(NW_DISC_SHORTAGE_F.QUANTITY_ON_HAND)
QUANTITY_ON_HAND,SUM(NW_DISC_SHORTAGE_F.QUANTITY_SHORT)
QUANTITY_SHORT,SUM(NW_DISC_SHORTAGE_F.REQUIRED_QUANTITY)
REQUIRED_QUANTITY FROM NW_COMPONENT_ITEM_D_0
NW_COMPONENT_ITEM_D,NW_DISC_SHORTAGE_F_0
NW_DISC_SHORTAGE_F,NW_ORG_PERIOD_D_0
NW_ORG_PERIOD_D,NW_WIP_ENTITY_D_0 NW_WIP_ENTITY_D WHERE
NW_DISC_SHORTAGE_F.COMPONENT_ITEM_KEY =
NW_COMPONENT_ITEM_D.COMPONENT_ITEM_KEY AND
NW_DISC_SHORTAGE_F.ORG_PERIOD_KEY = NW_ORG_PERIOD_D.ORG_PERIOD_KEY
AND NW_DISC_SHORTAGE_F.WIP_ENTITY_KEY =NW_WIP_ENTITY_D.WIP_ENTITY_KEY
AND NW_ORG_PERIOD_D.ORG_PERIOD = '#P1#' GROUP BY
NW_COMPONENT_ITEM_D.COMPONENT_ITEM_DESC HAVING
SUM(NW_DISC_SHORTAGE_F.REQUIRED_QUANTITY) > 0 ORDER BY
REQUIRED_QUANTITY DESC, COMPONENT_ITEM_DESC,REQUIRED_QUANTITY,
QUANTITY_ISSUED, QUANTITY_SHORT, QUANTITY_ON_HAND</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="54" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="CONNECTION STRING" PARAM_NAME="CONNECTION_STRING"
PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="55" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="DATABASE USER NAME" PARAM_NAME="USERNAME"
PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">14</PARAM_SOURCE>
  </PARAMETER>
```

FIG. 21H

2108

```
- <PARAMETER NODE_ID="56" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="DATABASE PASSWORD" PARAM_NAME="PWD" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">15</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="57" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P1"
PARAM_NAME="P1" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">17</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="58" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P2"
PARAM_NAME="P2" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="59" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P3"
PARAM_NAME="P3" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="60" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P4"
PARAM_NAME="P4" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="61" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P5"
PARAM_NAME="P5" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
 </ACTIVITY_IN_PARAMETERS>
- <ACTIVITY_OUT_PARAMETERS>
- <PARAMETER NODE_ID="62" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
DATA" PARAM_NAME="RESULTSET" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
- <PARAMETER NODE_ID="63" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
METADATA" PARAM_NAME="RESULTMETADATA" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
 </ACTIVITY_OUT_PARAMETERS>
 </ACTIVITY>
```

FIG. 21I

2109

```
- <ACTIVITY NODE_ID="65">
  <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"
ACTIVITY_DESCRIPTION="ACTIVITY DESCRIPTION" />
  <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA"
THREADING_EFFECT="STANDARD" DIRECTIVE_NAME="SAVE RESULTS"
DIRECTIVE_ID="SR1" DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1"
DIRECTIVE_DESC="SAVES RESULTS TO REPOSITORY" />
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="66" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
SET OWNER" PARAM_NAME="OWNER" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">16</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="67" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
SET" PARAM_NAME="RESULTSET" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">36</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="68" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
SET METADATA" PARAM_NAME="RESULTMETADATA" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">37</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="69" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
SET NAME" PARAM_NAME="RESULTNAME" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="VALUE">DETAIL</PARAM_SOURCE>
  </PARAMETER>
  </ACTIVITY_IN_PARAMETERS>
- <ACTIVITY_OUT_PARAMETERS>
- <PARAMETER NODE_ID="70" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="RESULTSET ID" PARAM_NAME="RESULTSETID" PARAM_TYPE="OUT">
  <PARAM_SOURCE />
  </PARAMETER>
  </ACTIVITY_OUT_PARAMETERS>
  </ACTIVITY>
- <ACTIVITY NODE_ID="72">
  <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"
ACTIVITY_DESCRIPTION="ACTIVITY DESCRIPTION" />
  <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA"
THREADING_EFFECT="STANDARD" DIRECTIVE_NAME="SAVE RESULTS"
DIRECTIVE_ID="SR1" DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1"
DIRECTIVE_DESC="SAVES RESULTS TO REPOSITORY" />
```

FIG. 21J

2110


```
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="73" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT SET OWNER" PARAM_NAME="OWNER" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">16</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="74" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT SET" PARAM_NAME="RESULTSET" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">49</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="75" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT SET METADATA" PARAM_NAME="RESULTMETADATA" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">50</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="76" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT SET NAME" PARAM_NAME="RESULTNAME" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="VALUE">TREND</PARAM_SOURCE>
  </PARAMETER>
  </ACTIVITY_IN_PARAMETERS>
- <ACTIVITY_OUT_PARAMETERS>
- <PARAMETER NODE_ID="77" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULTSET ID" PARAM_NAME="RESULTSETID" PARAM_TYPE="OUT">
  <PARAM_SOURCE />
  </PARAMETER>
  </ACTIVITY_OUT_PARAMETERS>
  </ACTIVITY>
- <ACTIVITY NODE_ID="79">
  <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES" ACTIVITY_DESCRIPTION="ACTIVITY DESCRIPTION" />
  <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA" THREADING_EFFECT="STANDARD" DIRECTIVE_NAME="SAVE RESULTS" DIRECTIVE_ID="SR1" DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1" DIRECTIVE_DESC="SAVES RESULTS TO REPOSITORY" />
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="80" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT SET OWNER" PARAM_NAME="OWNER" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">16</PARAM_SOURCE>
  </PARAMETER>
```

FIG. 21K

2111


```
- <PARAMETER NODE_ID="81" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
SET" PARAM_NAME="RESULTSET" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">62</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="82" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
SET METADATA" PARAM_NAME="RESULTMETADATA" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">63</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="83" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
SET NAME" PARAM_NAME="RESULTNAME" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="VALUE">SUMMARY</PARAM_SOURCE>
  </PARAMETER>
 </ACTIVITY_IN_PARAMETERS>
- <ACTIVITY_OUT_PARAMETERS>
- <PARAMETER NODE_ID="84" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="RESULTSET ID" PARAM_NAME="RESULTSETID" PARAM_TYPE="OUT">
  <PARAM_SOURCE />
  </PARAMETER>
 </ACTIVITY_OUT_PARAMETERS>
 </ACTIVITY>
- <ACTIVITY NODE_ID="87">
  <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"
ACTIVITY_DESCRIPTION="ACTIVITY DESCRIPTION" />
  <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA"
THREADING_EFFECT="STANDARD" DIRECTIVE_NAME="PUBLISH PAGE"
DIRECTIVE_ID="CR2" DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1"
DIRECTIVE_DESC="PUBLISHES PAGE & GRANTS SECURITY" />
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="88" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="GRANT
SECURITY LIST" PARAM_NAME="SECDOC" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">162</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="89" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="METADATA FOR SECDOC" PARAM_NAME="SECMETA"
PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">163</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="90" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="GRANT
SECURITY LIST" PARAM_NAME="SECCOLNAME" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="VALUE">USERNAME</PARAM_SOURCE>
  </PARAMETER>
```

FIG. 21L

2112


```
- <PARAMETER NODE_ID="91" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE
OWNER" PARAM_NAME="OWNER" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">16</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="92" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE
NAME" PARAM_NAME="PAGENAME" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">STARTPAGE</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="93" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE
SLICE NAME" PARAM_NAME="PAGESLICENAME" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">FIRST</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="94" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE
DEFINITION" PARAM_NAME="PAGEDEFN" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE"><DP_PAGE_DEF><LAYER
LAYER_TYPE="HORIZONTAL" LAYER_BORDER="0" LAYER_PADDING="3"
LAYER_HEIGHT="100%" LAYER_WIDTH="100%"><LAYER LAYER_TYPE="VERTICAL"
LAYER_PADDING="3" LAYER_BORDER="0" LAYER_HEIGHT="225"
LAYER_WIDTH="100%"><LAYER LAYER_TYPE="WIDGET" LAYER_HEIGHT="100%"
LAYER_WIDTH="50%"><WIDGET WIDGET_ID="DP_PIE_CHART"><PARAMETERS><PARAM
PARAM_NAME="TITLE">MY PIE</PARAM><PARAM PARAM_NAME="DSID">#P3#</
PARAM><PARAM PARAM_NAME="VALUECOL">REQUIRED_QUANTITY</PARAM><PARAM
PARAM_NAME="LABELCOL">COMPONENT_ITEM_DESC</PARAM><PARAM
PARAM_NAME="FILTERTYPE">TOP</PARAM><PARAM PARAM_NAME="FILTERVAL">10</
PARAM></PARAMETERS></WIDGET></LAYER><LAYER LAYER_TYPE="WIDGET"
LAYER_HEIGHT="100%" LAYER_WIDTH="50%"><WIDGET
WIDGET_ID="DP_BAR_CHART2"><PARAMETERS><PARAM PARAM_NAME="TITLE">MY
CHART TITLE</PARAM><PARAM PARAM_NAME="DSID">#P2#</PARAM><PARAM
PARAM_NAME="MEASURECOLS">QUANTITY_ON_HAND|QUANTITY_ISSUED|QUANTITY_SH
ORT|REQUIRED_QUANTITY</PARAM><PARAM PARAM_NAME="XAXISLABELS">ON
HAND|ISSUED|SHORT|REQUIRED</PARAM><PARAM
PARAM_NAME="SERIESCOL">PERIOD_NAME</PARAM></PARAMETERS></WIDGET></
LAYER></LAYER><LAYER LAYER_TYPE="HORIZONTAL" LAYER_BORDER="0"
LAYER_PADDING="3" LAYER_HEIGHT="80%" LAYER_WIDTH="100%"><LAYER
LAYER_TYPE="WIDGET" LAYER_HEIGHT="100%" LAYER_WIDTH="100%"><WIDGET
WIDGET_ID="DP_REPORT_VIEWER"><PARAMETERS><PARAM PARAM_NAME="TITLE">MY
TITLE</PARAM> <PARAM PARAM_NAME="DSID">#P1#</PARAM></PARAMETERS></
WIDGET></LAYER></LAYER></LAYER></DP_PAGE_DEF></PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="95" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="IN
RESULTS KEY" PARAM_NAME="P1" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">70</PARAM_SOURCE>
 </PARAMETER>
```

FIG. 21M

2113


```
- <PARAMETER NODE_ID="96" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="IN
RESULTS KEY" PARAM_NAME="P2" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">77</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="97" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="IN
RESULTS KEY" PARAM_NAME="P3" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">84</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="98" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="IN
RESULTS KEY" PARAM_NAME="P4" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">70</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="99" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="IN
RESULTS KEY" PARAM_NAME="P5" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">70</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="100" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="IN
RESULTS KEY" PARAM_NAME="P6" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">70</PARAM_SOURCE>
 </PARAMETER>
 </ACTIVITY_IN_PARAMETERS>
- <ACTIVITY_OUT_PARAMETERS>
- <PARAMETER NODE_ID="101" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE
ID" PARAM_NAME="PAGEID" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
- <PARAMETER NODE_ID="102" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE
OWNER" PARAM_NAME="OWNER" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
- <PARAMETER NODE_ID="103" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE
NAME" PARAM_NAME="PAGENAME" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
- <PARAMETER NODE_ID="104" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE
SLICE NAME" PARAM_NAME="PAGESLICENAME" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
 </ACTIVITY_OUT_PARAMETERS>
 </ACTIVITY>
```

FIG. 21N

2114


```
- <ACTIVITY NODE_ID="108">
  <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"
ACTIVITY_DESCRIPTION="OUTOF BOUNDS QTY" />
  <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA"
THREADING_EFFECT="STANDARD" DIRECTIVE_NAME="ADVANCED FILTER"
DIRECTIVE_ID="ABFILTER" DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1"
DIRECTIVE_DESC="FILTER RESULTS" />
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="109" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="FILTER
EXPRESSION" PARAM_NAME="FILTER_EXP" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="VALUE">#REQUIRED_QUANTITY# > 200</
PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="110" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="RESULTS METADATA" PARAM_NAME="METADOC" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">63</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="111" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="RESULTS" PARAM_NAME="RESULTSDOC" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">62</PARAM_SOURCE>
  </PARAMETER>
  </ACTIVITY_IN_PARAMETERS>
- <ACTIVITY_OUT_PARAMETERS>
- <PARAMETER NODE_ID="112" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="RESULTS METADATA" PARAM_NAME="METADOC"
PARAM_TYPE="OUT">
  <PARAM_SOURCE />
  </PARAMETER>
- <PARAMETER NODE_ID="113" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="RESULTS" PARAM_NAME="RESULTSDOC" PARAM_TYPE="OUT">
  <PARAM_SOURCE />
  </PARAMETER>
- <PARAMETER NODE_ID="114" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="ROW
COUNT" PARAM_NAME="ROWCOUNT" PARAM_TYPE="OUT">
  <PARAM_SOURCE />
  </PARAMETER>
  </ACTIVITY_OUT_PARAMETERS>
  </ACTIVITY>
```

FIG. 21O

2115

```
- <ACTIVITY NODE_ID="116">
  <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"
ACTIVITY_DESCRIPTION="ACTIVITY DESCRIPTION" />
  <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA"
THREADING_EFFECT="STANDARD" DIRECTIVE_NAME="TEXT EMAILER"
DIRECTIVE_ID="TEXTEMAILER" DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1"
DIRECTIVE_DESC="TEXT EMAILER" />
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="117" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="SUBJECT EXPRESSION" PARAM_NAME="SUBJECT_EXP"
PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="VALUE">OUT OF BOUNDS QTY CONDITION</
PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="118" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="MESSAGE EXPRESSION" PARAM_NAME="MESSAGE_EXP"
PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="VALUE">COMPONENT: #COMPONENT_ITEM_DESC#
REQUIRES #REQUIRED_QUANTITY# ADDITIONAL UNITS</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="119" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="EMAIL
ADDRESSES" PARAM_NAME="EMAIL_ADDRESSES" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="VALUE">EXH@DPAPPLICATIONS.COM</
PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="120" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="SEND
FROM ADDRESS" PARAM_NAME="FROM_ADDRESS" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="VALUE">DF@DPAPPLICATIONS.COM</
PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="121" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="RESULTS METADATA" PARAM_NAME="METADOC" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">112</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="122" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="RESULTS" PARAM_NAME="RESULTSDOC" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">113</PARAM_SOURCE>
  </PARAMETER>
  </ACTIVITY_IN_PARAMETERS>
```

FIG. 21P

2116

```
- <ACTIVITY_OUT_PARAMETERS>
- <PARAMETER NODE_ID="123" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="ERROR
MESSAGES" PARAM_NAME="ERROR" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
 </ACTIVITY_OUT_PARAMETERS>
 </ACTIVITY>
- <ACTIVITY NODE_ID="125">
 <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"
ACTIVITY_DESCRIPTION="EMAIL LINK" />
 <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA"
THREADING_EFFECT="STANDARD" DIRECTIVE_NAME="SMTP EMAIL DIRECTIVE"
DIRECTIVE_ID="MB2" DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1"
DIRECTIVE_DESC="SEND PUBLISHED PAGES" />
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="126" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="EMAIL
ADDRESSES" PARAM_NAME="ADDRDOC" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">162</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="127" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="METADATA FOR ADDRDOC" PARAM_NAME="ADDRMETA"
PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">163</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="128" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="EMAIL
COLUMN NAME" PARAM_NAME="ADDRCOLNAME" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">EMAIL_ADDRESS</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="129" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="EMAIL
COLUMN NAME" PARAM_NAME="IDCOLNAME" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">USERNAME</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="130" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="SUBJECT" PARAM_NAME="SUBJECT" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">QTY ANALYSIS UPDATED</PARAM_SOURCE>
 </PARAMETER>
```

FIG. 21Q

2117

```
- <PARAMETER NODE_ID="131" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE
OWNER" PARAM_NAME="OWNER" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">102</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="132" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE
NAME" PARAM_NAME="PAGENAME" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">103</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="133" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE
INSTANCE" PARAM_NAME="PAGEINST" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="ID">104</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="134" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="MAIL
FORMAT" PARAM_NAME="FORMAT" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="VALUE">DYNAM</PARAM_SOURCE>
  </PARAMETER>
- <PARAMETER NODE_ID="135" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="SEND
FROM MAIL ADDRESS" PARAM_NAME="SENDFROM" PARAM_TYPE="IN">
  <PARAM_SOURCE PARAM_TYPE="VALUE">DF@DPAPPLICATIONS.COM</
PARAM_SOURCE>
  </PARAMETER>
  </ACTIVITY_IN_PARAMETERS>
- <ACTIVITY_OUT_PARAMETERS>
- <PARAMETER NODE_ID="136" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="ERROR
MESSAGES" PARAM_NAME="ERROR_MSG" PARAM_TYPE="OUT">
  <PARAM_SOURCE />
  </PARAMETER>
  </ACTIVITY_OUT_PARAMETERS>
  </ACTIVITY>
- <ACTIVITY NODE_ID="152">
  <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"
ACTIVITY_DESCRIPTION="ACTIVITY DESCRIPTION" />
  <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA"
THREADING_EFFECT="STANDARD" DIRECTIVE_NAME="DATA DIRECTIVE"
DIRECTIVE_ID="DB3" DIRECTIVE_VERSION="1" DIRECTIVE_DESC="RETRIEVE DATA AND
ASSEMBLE INTO RESULT SET" />
```

FIG. 21R

2118

```
- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="153" PARAM_DATA_TYPE="PARAMITERIZED SQL STRING"
PARAM_CAPTION="SQL" PARAM_NAME="SQL" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">SELECT USERNAME,EMAIL_ADDRESS FROM
OA3.DF_QTYAPP_USERS</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="154" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="CONNECTION STRING" PARAM_NAME="CONNECTION_STRING"
PARAM_TYPE="IN">
 <PARAM_SOURCE
PARAM_TYPE="VALUE">JDBC:ORACLE:THIN:@HD.DPAPPLICATIONS.COM:1521:NRB816</
PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="155" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="DATABASE USER NAME" PARAM_NAME="USERNAME"
PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">OA3</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="156" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="DATABASE PASSWORD" PARAM_NAME="PWD" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">OA3</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="157" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P1"
PARAM_NAME="P1" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="158" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P2"
PARAM_NAME="P2" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="159" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P3"
PARAM_NAME="P3" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="160" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P4"
PARAM_NAME="P4" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="161" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P5"
PARAM_NAME="P5" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 </PARAMETER>
 </ACTIVITY_IN_PARAMETERS>
```

FIG. 21S

2119

```
- <ACTIVITY_OUT_PARAMETERS>
- <PARAMETER NODE_ID="162" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="RESULT DATA" PARAM_NAME="RESULTSET" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
- <PARAMETER NODE_ID="163" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="RESULT METADATA" PARAM_NAME="RESULTMETADATA"
PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
 </ACTIVITY_OUT_PARAMETERS>
 </ACTIVITY>
 </DF_WORKFLOW_ACTIVITIES>
- <DF_WORKFLOW_TRANSITIONS>
 <TRANSITION NODE_ID="24" FROM_ACTIVITY_ID="11" TO_ACTIVITY_ID="18"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="25" FROM_ACTIVITY_ID="11" TO_ACTIVITY_ID="21"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="71" FROM_ACTIVITY_ID="26" TO_ACTIVITY_ID="65"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="78" FROM_ACTIVITY_ID="39" TO_ACTIVITY_ID="72"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="85" FROM_ACTIVITY_ID="52" TO_ACTIVITY_ID="79"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="105" FROM_ACTIVITY_ID="65" TO_ACTIVITY_ID="87"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="106" FROM_ACTIVITY_ID="72" TO_ACTIVITY_ID="87"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="107" FROM_ACTIVITY_ID="79" TO_ACTIVITY_ID="87"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="115" FROM_ACTIVITY_ID="52" TO_ACTIVITY_ID="108"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="124" FROM_ACTIVITY_ID="108" TO_ACTIVITY_ID="116"
TRANSITION_EXPRESSION="#114# > "0"" DESCRIPTION="EMAIL ONLY EXCEPTIONS"
NOTES="NOTES" />
```

FIG. 21T

2120

```
<TRANSITION NODE_ID="137" FROM_ACTIVITY_ID="87" TO_ACTIVITY_ID="125"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="164" FROM_ACTIVITY_ID="18" TO_ACTIVITY_ID="152"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="165" FROM_ACTIVITY_ID="21" TO_ACTIVITY_ID="152"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="166" FROM_ACTIVITY_ID="152" TO_ACTIVITY_ID="26"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="167" FROM_ACTIVITY_ID="152" TO_ACTIVITY_ID="39"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="168" FROM_ACTIVITY_ID="152" TO_ACTIVITY_ID="52"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 </DF_WORKFLOW_TRANSITIONS>
- <DF_WORKFLOW_EDITOR>
 <ACTIVITY_VISUAL_EDITING NODE_ID="11" YCOORD="140" XCOORD="12" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="18" YCOORD="330" XCOORD="47" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="21" YCOORD="50" XCOORD="60" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="26" YCOORD="200" XCOORD="294" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="39" YCOORD="70" XCOORD="294" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="52" YCOORD="320" XCOORD="304" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="65" YCOORD="200" XCOORD="408" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="72" YCOORD="70" XCOORD="408" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="79" YCOORD="320" XCOORD="428" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="87" YCOORD="200" XCOORD="537" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="108" YCOORD="430" XCOORD="359" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="116" YCOORD="420" XCOORD="587" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="125" YCOORD="320" XCOORD="580" />
 <ACTIVITY_VISUAL_EDITING NODE_ID="152" YCOORD="200" XCOORD="160" />
 </DF_WORKFLOW_EDITOR>
 </DF_WORKFLOW>
```

FIG. 22A

2201

```
<DP_QUERY_DEF VERSION="1">
  <DPA_IDENTIFIERS DATA_SET="OAS" WH_OWNER_NAME="PART"/>
  <HINTS/>
  <COLUMN_DEFS>
    <COLUMN_DEF SUMMARY_TYPE="SUM" COLUMN_NAME="PTD_BUDGET"
COLUMN_ALIAS="PTD_BUDGET" COLUMN_SORT_ORDER="3"
COLUMN_SORT_ATTRIBUTE="NONE" COLUMN_TYPE="MEASURE" COLUMN_EXPR=""
COLUMN_POSITION="3" TABLE_ALIAS="INCOME_STMT_A" COLUMN_TAG="PTD_BUDGET"/
>
    <COLUMN_DEF SUMMARY_TYPE="NONE" COLUMN_NAME="LINE_NAME"
COLUMN_ALIAS="LINE_NAME" COLUMN_SORT_ORDER="1"
COLUMN_SORT_ATTRIBUTE="ASC" COLUMN_TYPE="ATTRIBUTE" COLUMN_EXPR=""
COLUMN_POSITION="1" TABLE_ALIAS="INC_STMT_LINES_D" COLUMN_TAG="LINE_NAME"/
>
    <COLUMN_DEF SUMMARY_TYPE="SUM" COLUMN_NAME="PTD_VARIANCE_PCT"
COLUMN_ALIAS="PTD_VARIANCE_PCT" COLUMN_SORT_ORDER="6"
COLUMN_SORT_ATTRIBUTE="NONE" COLUMN_TYPE="MEASURE" COLUMN_EXPR=""
COLUMN_POSITION="6" TABLE_ALIAS="INCOME_STMT_A"
COLUMN_TAG="PTD_VAR_PCT"/>
    <COLUMN_DEF SUMMARY_TYPE="NONE" COLUMN_NAME="DEPARTMENT_DESC"
COLUMN_ALIAS="DEPT_DESC" COLUMN_SORT_ORDER="2"
COLUMN_SORT_ATTRIBUTE="ASC" COLUMN_TYPE="ATTRIBUTE" COLUMN_EXPR=""
COLUMN_POSITION="2" TABLE_ALIAS="DEPARTMENT_D" COLUMN_TAG="DEPT_DESC"/>
    <COLUMN_DEF SUMMARY_TYPE="SUM" COLUMN_NAME="PTD_VARIANCE"
COLUMN_ALIAS="PTD_VARIANCE" COLUMN_SORT_ORDER="5"
COLUMN_SORT_ATTRIBUTE="NONE" COLUMN_TYPE="MEASURE" COLUMN_EXPR=""
COLUMN_POSITION="5" TABLE_ALIAS="INCOME_STMT_A" COLUMN_TAG="PTD_VAR"/>
    <COLUMN_DEF SUMMARY_TYPE="SUM" COLUMN_NAME="PTD_ACTUAL"
COLUMN_ALIAS="PTD_ACTUAL" COLUMN_SORT_ORDER="4"
COLUMN_SORT_ATTRIBUTE="NONE" COLUMN_TYPE="MEASURE" COLUMN_EXPR=""
COLUMN_POSITION="4" TABLE_ALIAS="INCOME_STMT_A" COLUMN_TAG="PTD_ACTUAL"/
>
  </COLUMN_DEFS>
```

FIG. 22B

2202

```
    <TABLE_DEFS>
      <TABLE_DEF TABLE_ALIAS="VENDOR_D" TABLE_NAME="VENDOR_D"/>
      <TABLE_DEF TABLE_ALIAS="AP_INV_DETAIL_F" TABLE_NAME="AP_INV_DETAIL_F"/>
      <TABLE_DEF TABLE_ALIAS="INCOME_STMT_A" TABLE_NAME="INCOME_STMT_A"/>
      <TABLE_DEF TABLE_ALIAS="DEPARTMENT_D" TABLE_NAME="DEPARTMENT_D"/>
      <TABLE_DEF TABLE_ALIAS="INC_STMT_LINES_D"
TABLE_NAME="INC_STMT_LINES_D"/>
    </TABLE_DEFS>
    <DETAIL_FILTERS>
      <FILTER FILTER_TYPE="VALUE" COLUMN_TEXT="PERIOD_KEY"
TABLE_ALIAS="AP_INV_DETAIL_F" FILTER_PREC_OPER="AND" FILTER_OPERATOR="=">
        <FILTER_VALUE VALUE_DATA_TYPE="STRING">DEC-97</FILTER_VALUE>
      </FILTER>
      <FILTER FILTER_TYPE="VALUE" COLUMN_TEXT="VENDOR_TYPE"
TABLE_ALIAS="VENDOR_D" FILTER_PREC_OPER="AND" FILTER_OPERATOR="=">
        <FILTER_VALUE VALUE_DATA_TYPE="STRING">EMPLOYEE</FILTER_VALUE>
      </FILTER>
      <FILTER FILTER_TYPE="VALUE" COLUMN_TEXT="COMPANY_KEY"
TABLE_ALIAS="AP_INV_DETAIL_F" FILTER_PREC_OPER="AND" FILTER_OPERATOR="=">
        <FILTER_VALUE VALUE_DATA_TYPE="STRING">01</FILTER_VALUE>
      </FILTER>
      <FILTER FILTER_TYPE="VALUE" COLUMN_TEXT="DEPARTMENT_KEY"
TABLE_ALIAS="AP_INV_DETAIL_F" FILTER_PREC_OPER="AND" FILTER_OPERATOR="=">
        <FILTER_VALUE VALUE_DATA_TYPE="STRING">560</FILTER_VALUE>
      </FILTER>
    </DETAIL_FILTERS>
    <AGGREGATE_FILTERS>
      <FILTER FILTER_TYPE="VALUE" COLUMN_TEXT="SUM(INVOICE_LINE_AMOUNT)"
TABLE_ALIAS="AP_INV_DETAIL_F" FILTER_PREC_OPER="AND"
FILTER_OPERATOR="&GT;">
        <FILTER_VALUE VALUE_DATA_TYPE="NUMBER">0</FILTER_VALUE>
      </FILTER>
    </AGGREGATE_FILTERS>
  </DP_QUERY_DEF>
```

FIG. 23A

2301

```
- <DP_SCHEMA_DOC VERSION="1">
 <DPA_QUERY_SERVER_INFO SERVICE="DPA_QUERY_SERVER" MACHINE="EXH_2K"
PORT="8069" WAREHOUSE_SERVER="HD.DPAPPLICATIONS.COM"
WAREHOUSE_DBNAME="DEMO30" WAREHOUSE_OWNER="RROC"
SCHEMA="AP_INV_DETAIL_F" DATA_SET="NW">FOODADDY</
DPA_QUERY_SERVER_INFO>
- <DP_DIMENSIONS>
- <DIMENSION LABEL="ACCOUNTING DATE" NAME="ACCOUNTING_DATE_D">
 <ATTRIBUTE LABEL="ACCOUNTING DATE KEY" NAME="ACCOUNTING_DATE_KEY" />
 <ATTRIBUTE LABEL="ACCOUNTING MONTH" NAME="ACCOUNTING_MONTH" />
 <ATTRIBUTE LABEL="ACCOUNTING PERIOD" NAME="ACCOUNTING_PERIOD" />
 <ATTRIBUTE LABEL="ACCOUNTING PERIOD KEY"
NAME="ACCOUNTING_PERIOD_KEY" />
 <ATTRIBUTE LABEL="ACCOUNTING PERIOD QUARTER"
NAME="ACCOUNTING_PERIOD_QUARTER" />
 <ATTRIBUTE LABEL="ACCOUNTING QUARTER" NAME="ACCOUNTING_QUARTER" />
 <ATTRIBUTE LABEL="ACCOUNTING WEEK ENDING"
NAME="ACCOUNTING_WEEK_ENDING" />
 <ATTRIBUTE LABEL="ACCOUNTING YEAR" NAME="ACCOUNTING_YEAR" />
 </DIMENSION>
- <DIMENSION LABEL="ACCOUNT" NAME="ACCOUNT_D">
 <ATTRIBUTE LABEL="ACCOUNT" NAME="ACCOUNT" />
 <ATTRIBUTE LABEL="LINE NAME" NAME="LINE_NAME" />
 <ATTRIBUTE LABEL="LINE SEQUENCE KEY" NAME="LINE_SEQUENCE_KEY" />
 <ATTRIBUTE LABEL="REPORT SECTION" NAME="REPORT_SECTION" />
 <ATTRIBUTE LABEL="REPORT SEQUENCE" NAME="REPORT_SEQUENCE" />
 <ATTRIBUTE LABEL="ACCOUNT KEY" NAME="ACCOUNT_KEY" />
 <ATTRIBUTE LABEL="ACCOUNT DESCRIPTION" NAME="ACCOUNT_DESC" />
 </DIMENSION>
- <DIMENSION LABEL="ACCOUNT ROLLUPS" NAME="ACCOUNT_RLUP_D">
 <ATTRIBUTE LABEL="ACCOUNT" NAME="ACCOUNT" />
 <ATTRIBUTE LABEL="ACCOUNT KEY" NAME="ACCOUNT_KEY" />
 <ATTRIBUTE LABEL="ACCOUNT ROLLUP DESCRIPTION" NAME="ROLLUP_DESC" />
 <ATTRIBUTE LABEL="ACCOUNT ROLLUP CODE" NAME="ROLLUP_CODE" />
 <ATTRIBUTE LABEL="ACCOUNT DESCRIPTION" NAME="ACCOUNT_DESC" />
 </DIMENSION>
- <DIMENSION LABEL="AP HOLD CODES" NAME="AP_HOLD_CODE_D">
 <ATTRIBUTE LABEL="AP HOLD CODE" NAME="AP_HOLD_CODE" />
 <ATTRIBUTE LABEL="AP HOLD CODE DESCRIPTION" NAME="AP_HOLD_CODE_DESC"
/>
 <ATTRIBUTE LABEL="AP HOLD CODE KEY" NAME="AP_HOLD_CODE_KEY" />
 <ATTRIBUTE LABEL="AP HOLD CODE TYPE" NAME="AP_HOLD_CODE_TYPE" />
 </DIMENSION>
```

FIG. 23B

2302

```
- <DIMENSION LABEL="AP HOLD STATUS" NAME="AP_HOLD_STATUS_D">
 <ATTRIBUTE LABEL="AP HOLD STATUS" NAME="AP_HOLD_STATUS" />
 <ATTRIBUTE LABEL="AP HOLD STATUS KEY" NAME="AP_HOLD_STATUS_KEY" />
 </DIMENSION>
- <DIMENSION LABEL="AP INVOICES" NAME="AP_INVOICE_D">
 <ATTRIBUTE LABEL="AP INVOICE NUMBER" NAME="AP_INVOICE" />
 <ATTRIBUTE LABEL="AP INVOICE DATE" NAME="AP_INVOICE_DATE" />
 <ATTRIBUTE LABEL="AP INVOICE KEY" NAME="AP_INVOICE_KEY" />
 </DIMENSION>
- <DIMENSION LABEL="AP INVOICE TYPES" NAME="AP_INVOICE_TYPE_D">
 <ATTRIBUTE LABEL="AP INVOICE TYPE" NAME="AP_INVOICE_TYPE" />
 <ATTRIBUTE LABEL="AP INVOICE TYPE KEY" NAME="AP_INVOICE_TYPE_KEY" />
 </DIMENSION>
- <DIMENSION LABEL="AP PAYMENT TERMS" NAME="AP_PAYMENT_TERM_D">
 <ATTRIBUTE LABEL="AP PAYMENT TERM" NAME="AP_PAYMENT_TERM" />
 <ATTRIBUTE LABEL="AP PAYMENT TERM DESCRIPTION"
NAME="AP_PAYMENT_TERM_DESC" />
 <ATTRIBUTE LABEL="AP PAYMENT TERM KEY" NAME="AP_PAYMENT_TERM_KEY" />
 </DIMENSION>
- <DIMENSION LABEL="PO AUTHORIZER" NAME="AUTHORIZER_D">
 <ATTRIBUTE LABEL="AUTHORIZER" NAME="AUTHORIZER" />
 <ATTRIBUTE LABEL="AUTHORIZER KEY" NAME="AUTHORIZER_KEY" />
 </DIMENSION>
- <DIMENSION LABEL="BUYERS" NAME="BUYER_D">
 <ATTRIBUTE LABEL="BUYER" NAME="BUYER" />
 <ATTRIBUTE LABEL="AUTHORIZATION LIMIT" NAME="BUYER_AUTHORIZATION_LIMIT"
/>
 <ATTRIBUTE LABEL="END DATE ACTIVE" NAME="BUYER_END_DATE_ACTIVE" />
 <ATTRIBUTE LABEL="BUYER KEY" NAME="BUYER_KEY" />
 <ATTRIBUTE LABEL="START DATE ACTIVE" NAME="BUYER_START_DATE_ACTIVE" />
 </DIMENSION>
- <DIMENSION LABEL="COMPANY" NAME="COMPANY_D">
 <ATTRIBUTE LABEL="COMPANY" NAME="COMPANY" />
 <ATTRIBUTE LABEL="COMPANY DESCRIPTION" NAME="COMPANY_DESC" />
 <ATTRIBUTE LABEL="COMPANY KEY" NAME="COMPANY_KEY" />
 </DIMENSION>
- <DIMENSION LABEL="CURRENCY" NAME="CURRENCY_D">
 <ATTRIBUTE LABEL="CURRENCY" NAME="CURRENCY" />
 <ATTRIBUTE LABEL="CURRENCY DESCRIPTION" NAME="CURRENCY_DESC" />
 <ATTRIBUTE LABEL="CURRENCY KEY" NAME="CURRENCY_KEY" />
 </DIMENSION>
```

FIG. 23C

2303

```
- <DIMENSION LABEL="DEPARTMENT" NAME="DEPARTMENT_D">
 <ATTRIBUTE LABEL="DEPARTMENT" NAME="DEPARTMENT" />
 <ATTRIBUTE LABEL="DEPARTMENT KEY" NAME="DEPARTMENT_KEY" />
 <ATTRIBUTE LABEL="DEPARTMENT DESCRIPTION" NAME="DEPARTMENT_DESC" />
 </DIMENSION>
- <DIMENSION LABEL="DEPARTMENT ROLLUPS" NAME="DEPARTMENT_RLUP_D">
 <ATTRIBUTE LABEL="DEPARTMENT" NAME="DEPARTMENT" />
 <ATTRIBUTE LABEL="DEPARTMENT ROLLUP DESC" NAME="ROLLUP_DESC" />
 <ATTRIBUTE LABEL="DEPARTMENT ROLLUP CODE" NAME="ROLLUP_CODE" />
 <ATTRIBUTE LABEL="DEPARTMENT DESCRIPTION" NAME="DEPARTMENT_DESC" />
 <ATTRIBUTE LABEL="DEPARTMENT KEY" NAME="DEPARTMENT_KEY" />
 </DIMENSION>
- <DIMENSION LABEL="AP DUE DATES" NAME="DUE_DATE_D">
 <ATTRIBUTE LABEL="DUE DATE KEY" NAME="DUE_DATE_KEY" />
 <ATTRIBUTE LABEL="DUE MONTH" NAME="DUE_MONTH" />
 <ATTRIBUTE LABEL="DUE PERIOD" NAME="DUE_PERIOD" />
 <ATTRIBUTE LABEL="DUE PERIOD KEY" NAME="DUE_PERIOD_KEY" />
 <ATTRIBUTE LABEL="DUE PERIOD QUARTER" NAME="DUE_PERIOD_QUARTER" />
 <ATTRIBUTE LABEL="DUE QUARTER" NAME="DUE_QUARTER" />
 <ATTRIBUTE LABEL="DUE WEEK ENDING" NAME="DUE_WEEK_ENDING" />
 <ATTRIBUTE LABEL="DUE YEAR" NAME="DUE_YEAR" />
 </DIMENSION>
- <DIMENSION LABEL="INVOICE DATES" NAME="INVOICE_DATE_D">
 <ATTRIBUTE LABEL="INVOICE DATE KEY" NAME="INVOICE_DATE_KEY" />
 <ATTRIBUTE LABEL="INVOICE MONTH" NAME="INVOICE_MONTH" />
 <ATTRIBUTE LABEL="INVOICE PERIOD" NAME="INVOICE_PERIOD" />
 <ATTRIBUTE LABEL="INVOICE PERIOD KEY" NAME="INVOICE_PERIOD_KEY" />
 <ATTRIBUTE LABEL="INVOICE PERIOD QUARTER"
NAME="INVOICE_PERIOD_QUARTER" />
 <ATTRIBUTE LABEL="INVOICE QUARTER" NAME="INVOICE_QUARTER" />
 <ATTRIBUTE LABEL="INVOICE WEEK ENDING" NAME="INVOICE_WEEK_ENDING" />
 <ATTRIBUTE LABEL="INVOICE YEAR" NAME="INVOICE_YEAR" />
 </DIMENSION>
- <DIMENSION LABEL="JE BATCHS" NAME="JE_BATCH_D">
 <ATTRIBUTE LABEL="ACTUAL FLAG" NAME="ACTUAL_FLAG" />
 <ATTRIBUTE LABEL="DEFAULT PERIOD NAME" NAME="DEFAULT_PERIOD_NAME" />
 <ATTRIBUTE LABEL="JE BATCH KEY" NAME="JE_BATCH_KEY" />
 <ATTRIBUTE LABEL="NAME" NAME="NAME" />
 <ATTRIBUTE LABEL="ORG ID" NAME="ORG_ID" />
 <ATTRIBUTE LABEL="DESCRIPTION" NAME="DESCRIPTION" />
 <ATTRIBUTE LABEL="DATE CREATED" NAME="DATE_CREATED" />
 </DIMENSION>
```

FIG. 23D

2304

```
- <DIMENSION LABEL="ORGANIZATIONS" NAME="ORGANIZATION_D">
 <ATTRIBUTE LABEL="ORGANIZATION" NAME="ORGANIZATION" />
 <ATTRIBUTE LABEL="ORGANIZATION KEY" NAME="ORGANIZATION_KEY" />
 <ATTRIBUTE LABEL="ORGANIZATION TYPE" NAME="ORGANIZATION_TYPE" />
 </DIMENSION>
- <DIMENSION LABEL="PA PROJECTS" NAME="PA_PROJECT_D">
 <ATTRIBUTE LABEL="PROJECT KEY" NAME="PA_PROJECT_KEY" />
 <ATTRIBUTE LABEL="PROJECT COMPLETE DATE"
NAME="PROJECT_COMPLETE_DATE" />
 <ATTRIBUTE LABEL="PROJECT MANAGER" NAME="PROJECT_MANAGER" />
 <ATTRIBUTE LABEL="PROJECT NAME" NAME="PROJECT_NAME" />
 <ATTRIBUTE LABEL="PROJECT NUMBER" NAME="PROJECT_NUMBER" />
 <ATTRIBUTE LABEL="PROJECT OFFICER" NAME="PROJECT_OFFICER" />
 <ATTRIBUTE LABEL="PROJECT SPONSOR" NAME="PROJECT_SPONSOR" />
 <ATTRIBUTE LABEL="PROJECT START DATE" NAME="PROJECT_START_DATE" />
 <ATTRIBUTE LABEL="PROJECT STATUS" NAME="PROJECT_STATUS" />
 <ATTRIBUTE LABEL="PROJECT TITLE" NAME="PROJECT_TITLE" />
 <ATTRIBUTE LABEL="PROJECT TYPE" NAME="PROJECT_TYPE" />
 </DIMENSION>
- <DIMENSION LABEL="PA TASKS" NAME="PA_TASK_D">
 <ATTRIBUTE LABEL="PARENT TASK KEY" NAME="PARENT_TASK_KEY" />
 <ATTRIBUTE LABEL="TASK LOCATION" NAME="TASK_LOCATION" />
 <ATTRIBUTE LABEL="TASK NAME" NAME="TASK_NAME" />
 <ATTRIBUTE LABEL="TASK MANAGER" NAME="TASK_MANAGER" />
 <ATTRIBUTE LABEL="TOP TASK NAME" NAME="TOP_TASK_NAME" />
 <ATTRIBUTE LABEL="TOP TASK KEY" NAME="TOP_TASK_KEY" />
 <ATTRIBUTE LABEL="TASK WBS" NAME="TASK_WBS" />
 <ATTRIBUTE LABEL="TASK START DATE" NAME="TASK_START_DATE" />
 <ATTRIBUTE LABEL="TASK NUMBER" NAME="TASK_NUMBER" />
 <ATTRIBUTE LABEL="TASK DESCRIPTION" NAME="TASK_DESC" />
 <ATTRIBUTE LABEL="PARENT TASK NAME" NAME="PARENT_TASK_NAME" />
 <ATTRIBUTE LABEL="PROJECT KEY" NAME="PA_PROJECT_KEY" />
 <ATTRIBUTE LABEL="TASK COMPLETE DATE" NAME="TASK_COMPLETE_DATE" />
 <ATTRIBUTE LABEL="TASK KEY" NAME="PA_TASK_KEY" />
 </DIMENSION>
```

FIG. 23E

2305

```
- <DIMENSION LABEL="PERIODS" NAME="PERIOD_D">
  <ATTRIBUTE LABEL="PERIOD" NAME="PERIOD" />
  <ATTRIBUTE LABEL="PERIOD END DATE" NAME="PERIOD_END_DATE" />
  <ATTRIBUTE LABEL="PERIOD KEY" NAME="PERIOD_KEY" />
  <ATTRIBUTE LABEL="PERIOD START DATE" NAME="PERIOD_START_DATE" />
  <ATTRIBUTE LABEL="PERIOD TYPE" NAME="PERIOD_TYPE" />
  <ATTRIBUTE LABEL="QUARTER" NAME="QUARTER" />
  <ATTRIBUTE LABEL="YEAR" NAME="YEAR" />
  </DIMENSION>
- <DIMENSION LABEL="PRODUCT" NAME="PRODUCT_D">
  <ATTRIBUTE LABEL="PRODUCT" NAME="PRODUCT" />
  <ATTRIBUTE LABEL="PRODUCT DESCRIPTION" NAME="PRODUCT_DESC" />
  <ATTRIBUTE LABEL="PRODUCT KEY" NAME="PRODUCT_KEY" />
  </DIMENSION>
- <DIMENSION LABEL="PA PROJECT CLASSES" NAME="PROJECT_CLASS_D">
  <ATTRIBUTE LABEL="PROJECT CLASS CATEGORY"
NAME="PROJECT_CLASS_CATEGORY" />
  <ATTRIBUTE LABEL="PROJECT CLASS CODE" NAME="PROJECT_CLASS_CODE" />
  <ATTRIBUTE LABEL="PROJECT CLASS DESCRIPTION"
NAME="PROJECT_CLASS_DESCRIPTION" />
  <ATTRIBUTE LABEL="PROJECT KEY" NAME="PROJECT_KEY" />
  </DIMENSION>
- <DIMENSION LABEL="PO REQUESTORS" NAME="REQUESTOR_D">
  <ATTRIBUTE LABEL="REQUESTOR" NAME="REQUESTOR" />
  <ATTRIBUTE LABEL="REQUESTOR KEY" NAME="REQUESTOR_KEY" />
  </DIMENSION>
- <DIMENSION LABEL="SUB-ACCOUNT" NAME="SUB_ACCOUNT_D">
  <ATTRIBUTE LABEL="SUB-ACCOUNT" NAME="SUB_ACCOUNT" />
  <ATTRIBUTE LABEL="SUB-ACCOUNT KEY" NAME="SUB_ACCOUNT_KEY" />
  <ATTRIBUTE LABEL="SUB-ACCOUNT DESCRIPTION" NAME="SUB_ACCOUNT_DESC" />
  </DIMENSION>
- <DIMENSION LABEL="AP VENDORS" NAME="VENDOR_D">
  <ATTRIBUTE LABEL="ACTIVE END DATE" NAME="ACTIVE_END_DATE" />
  <ATTRIBUTE LABEL="ACTIVE FLAG" NAME="ACTIVE_FLAG" />
  <ATTRIBUTE LABEL="ACTIVE START DATE" NAME="ACTIVE_START_DATE" />
  <ATTRIBUTE LABEL="VENDOR SITE ADDRESS LINE1" NAME="ADDRESS_LINE1" />
  <ATTRIBUTE LABEL="VENDOR SITE ADDRESS LINE2" NAME="ADDRESS_LINE2" />
  <ATTRIBUTE LABEL="VENDOR SITE ADDRESS LINE3" NAME="ADDRESS_LINE3" />
  <ATTRIBUTE LABEL="VENDOR SITE AREA CODE" NAME="AREA_CODE" />
  <ATTRIBUTE LABEL="VENDOR SITE CITY" NAME="CITY" />
  <ATTRIBUTE LABEL="VENDOR HOLD REASON" NAME="HOLD_REASON" />
  <ATTRIBUTE LABEL="VENDOR SITE PHONE NUMBER" NAME="PHONE_NUMBER" />
```

FIG. 23F

2306

```
 <ATTRIBUTE LABEL="VENDOR SITE PROVINCE" NAME="PROVINCE" />
 <ATTRIBUTE LABEL="VENDOR SITE STATE" NAME="STATE" />
 <ATTRIBUTE LABEL="VENDOR TAX FEDERAL FLAG"
NAME="TAX_FEDERAL_REPORT_FLAG" />
 <ATTRIBUTE LABEL="VENDOR TAX REPORTING NAME"
NAME="TAX_REPORTING_NAME" />
 <ATTRIBUTE LABEL="VENDOR TAX STATE FLAG" NAME="TAX_STATE_REPORT_FLAG"
/>
 <ATTRIBUTE LABEL="VENDOR 1099 NUMBER" NAME="VENDOR_1099_NUM" />
 <ATTRIBUTE LABEL="VENDOR 1099 TYPE" NAME="VENDOR_1099_TYPE" />
 <ATTRIBUTE LABEL="VENDOR CORPORATE GROUP"
NAME="VENDOR_CORPORATE_GROUP" />
 <ATTRIBUTE LABEL="VENDOR INDUSTRY CLASS"
NAME="VENDOR_INDUSTRY_CLASS" />
 <ATTRIBUTE LABEL="VENDOR KEY" NAME="VENDOR_KEY" />
 <ATTRIBUTE LABEL="VENDOR NAME" NAME="VENDOR_NAME" />
 <ATTRIBUTE LABEL="VENDOR NUMBER" NAME="VENDOR_NUMBER" />
 <ATTRIBUTE LABEL="VENDOR ORGANIZATION TYPE" NAME="VENDOR_ORG_TYPE" />
 <ATTRIBUTE LABEL="VENDOR PAYMENT PRIORITY"
NAME="VENDOR_PAYMENT_PRIORITY" />
 <ATTRIBUTE LABEL="VENDOR PAY GROUP" NAME="VENDOR_PAY_GROUP" />
 <ATTRIBUTE LABEL="VENDOR SITE CODE" NAME="VENDOR_SITE_CODE" />
 <ATTRIBUTE LABEL="VENDOR SITE KEY" NAME="VENDOR_SITE_KEY" />
 <ATTRIBUTE LABEL="VENDOR TYPE" NAME="VENDOR_TYPE" />
 <ATTRIBUTE LABEL="VENDOR SITE ZIP" NAME="ZIP" />
 </DIMENSION>
- <DIMENSION LABEL="AP INVOICE DETAILS" NAME="AP_INV_DETAIL_F">
 <ATTRIBUTE LABEL="ACCOUNTING DATE" NAME="ACCOUNTING_DATE" />
 <ATTRIBUTE LABEL="ACCOUNTING DATE KEY" NAME="ACCOUNTING_DATE_KEY" />
 <ATTRIBUTE LABEL="ACCOUNT KEY" NAME="ACCOUNT_KEY" />
 <ATTRIBUTE LABEL="APPROVAL STATUS" NAME="APPROVAL_STATUS" />
 <ATTRIBUTE LABEL="AP INVOICE KEY" NAME="AP_INVOICE_KEY" />
 <ATTRIBUTE LABEL="AP INVOICE TYPE KEY" NAME="AP_INVOICE_TYPE_KEY" />
 <ATTRIBUTE LABEL="AP PAYMENT TERM KEY" NAME="AP_PAYMENT_TERM_KEY" />
 <ATTRIBUTE LABEL="BUYER KEY" NAME="BUYER_KEY" />
 <ATTRIBUTE LABEL="COMPANY KEY" NAME="COMPANY_KEY" />
 <ATTRIBUTE LABEL="INVOICE CURRENCY CODE" NAME="CURRENCY_KEY" />
 <ATTRIBUTE LABEL="DEPARTMENT KEY" NAME="DEPARTMENT_KEY" />
 <ATTRIBUTE LABEL="DUE DATE" NAME="DUE_DATE" />
 <ATTRIBUTE LABEL="DUE DATE KEY" NAME="DUE_DATE_KEY" />
 <ATTRIBUTE LABEL="TOTAL INVOICE AMOUNT" NAME="INVOICE_AMOUNT" />
```

FIG. 23G

2307

```
 <ATTRIBUTE LABEL="INVOICE DATE" NAME="INVOICE_DATE" />
 <ATTRIBUTE LABEL="INVOICE DATE KEY" NAME="INVOICE_DATE_KEY" />
 <ATTRIBUTE LABEL="INVOICE DESCRIPTION" NAME="INVOICE_DESC" />
 <ATTRIBUTE LABEL="INVOICE ID KEY" NAME="INVOICE_ID_KEY" />
 <ATTRIBUTE LABEL="INVOICE LINE DESCRIPTION" NAME="INVOICE_LINE_DESC" />
 <ATTRIBUTE LABEL="INVOICE LINE NUMBER" NAME="INVOICE_LINE_NUMBER" />
 <ATTRIBUTE LABEL="INVOICE LINE TYPE" NAME="INVOICE_LINE_TYPE" />
 <ATTRIBUTE LABEL="INVOICE NUMBER" NAME="INVOICE_NUMBER" />
 <ATTRIBUTE LABEL="INVOICE TAX AMOUNT" NAME="INVOICE_TAX_AMOUNT" />
 <ATTRIBUTE LABEL="ORGANIZATION KEY" NAME="ORGANIZATION_KEY" />
 <ATTRIBUTE LABEL="PAID AMOUNT" NAME="PAID_AMOUNT" />
 <ATTRIBUTE LABEL="PA PROJECT KEY" NAME="PA_PROJECT_KEY" />
 <ATTRIBUTE LABEL="PA TASK KEY" NAME="PA_TASK_KEY" />
 <ATTRIBUTE LABEL="PERIOD KEY" NAME="PERIOD_KEY" />
 <ATTRIBUTE LABEL="POSTED FLAG" NAME="POSTED_FLAG" />
 <ATTRIBUTE LABEL="PO CREATION DATE" NAME="PO_CREATED_DATE" />
 <ATTRIBUTE LABEL="PO NUMBER" NAME="PO_NUMBER" />
 <ATTRIBUTE LABEL="PRODUCT KEY" NAME="PRODUCT_KEY" />
 <ATTRIBUTE LABEL="RECURRING INVOICE FLAG" NAME="RECURRING_INVOICE_FLAG" /
>
 <ATTRIBUTE LABEL="SUB-ACCOUNT KEY" NAME="SUB_ACCOUNT_KEY" />
 <ATTRIBUTE LABEL="TRANSLATED CURRENCY CODE"
NAME="TRANSLATED_CURRENCY_CODE" />
 <ATTRIBUTE LABEL="VENDOR KEY" NAME="VENDOR_KEY" />
 </DIMENSION>
 </DP_DIMENSIONS>
- <MEASURES LABEL="AP INVOICE DETAILS" NAME="AP_INV_DETAIL_F">
 <MEASURE LABEL="ACCOUNTING (PRE-AP) LAG DAYS"
NAME="ACCOUNTING_LAG_DAYS" />
 <MEASURE LABEL="INVOICE LINE AMOUNT" NAME="INVOICE_LINE_AMOUNT" />
 <MEASURE LABEL="INVOICE LINE EXCHANGE RATE VARIANCE"
NAME="INVOICE_LINE_EXCH_RATE_VAR" />
 <MEASURE LABEL="INVOICE LINE PRICE VARIANCE"
NAME="INVOICE_LINE_PRICE_VARIANCE" />
 <MEASURE LABEL="NUMBER OF INVOICE LINES" NAME="NUMBER_INVOICE_LINES" />
 <MEASURE LABEL="TRANSLATED CURRENCY AMOUNT"
NAME="TRANSLATED_CURRENCY_AMOUNT" />
 <MEASURE LABEL="UNPAID AMOUNT" NAME="UNPAID_AMOUNT" />
 </MEASURES>
 </DP_SCHEMA_DOC>
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FIG. 24

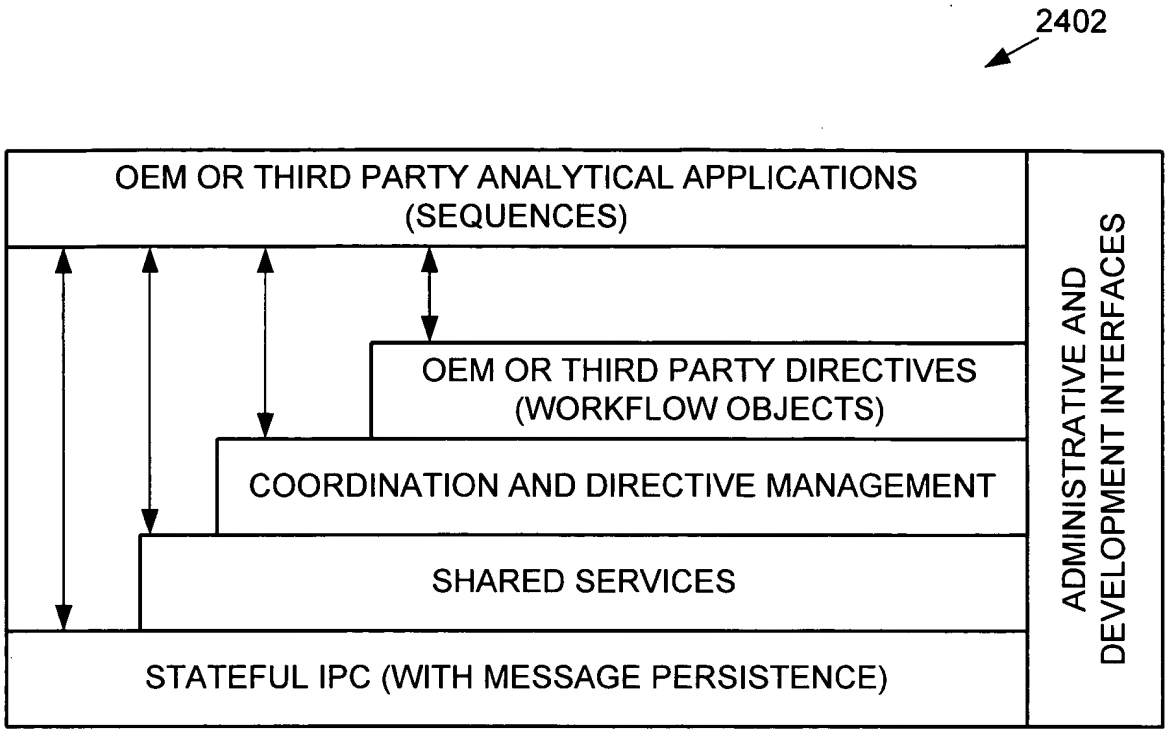
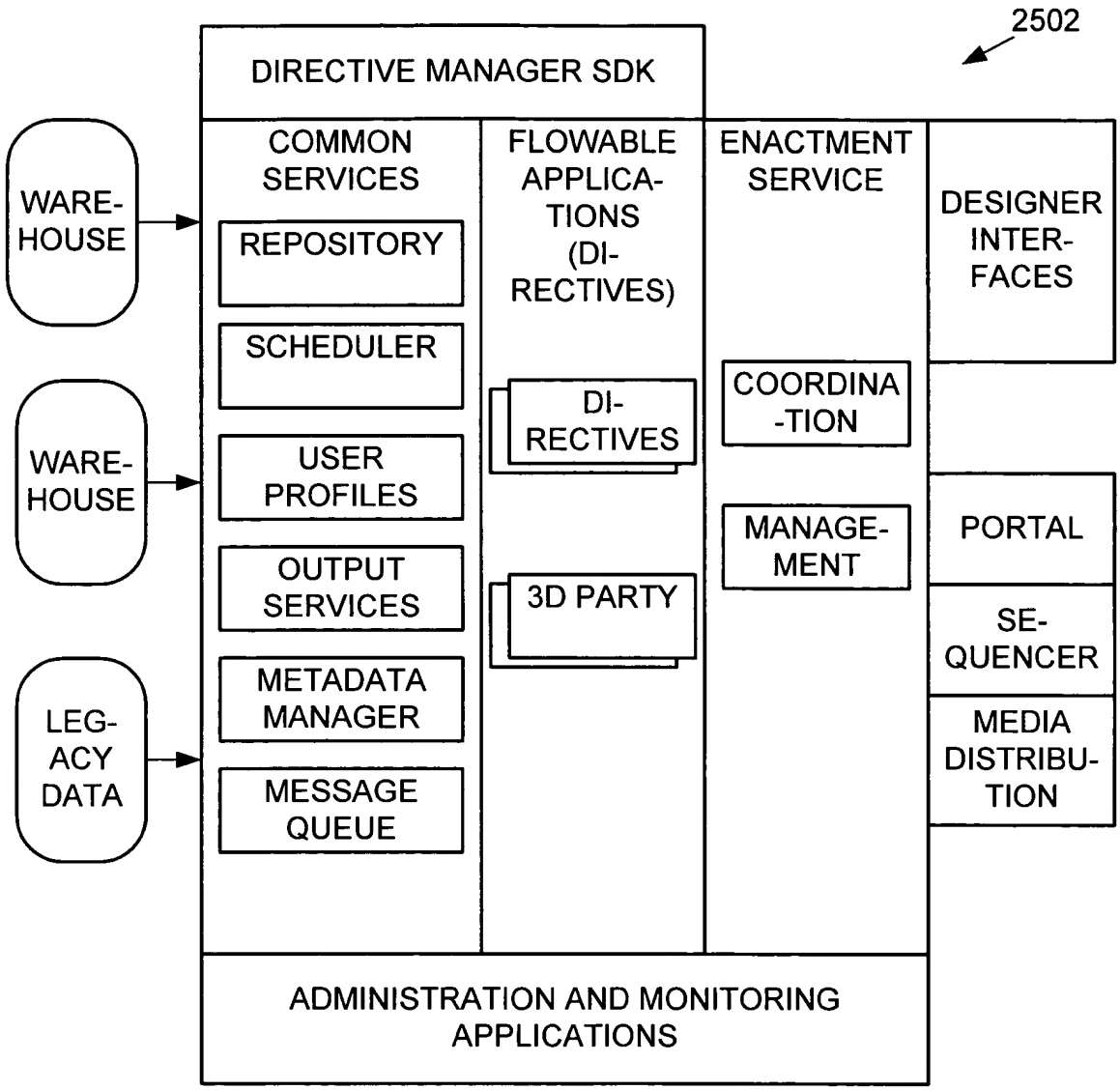

2402
OEM OR THIRD PARTY ANALYTICAL APPLICATIONS (SEQUENCES)
OEM OR THIRD PARTY DIRECTIVES (WORKFLOW OBJECTS)
COORDINATION AND DIRECTIVE MANAGEMENT
SHARED SERVICES
STATEFUL IPC (WITH MESSAGE PERSISTENCE)
ADMINISTRATIVE AND DEVELOPMENT INTERFACES

FIG. 25


2502
DIRECTIVE MANAGER SDK
WARE-HOUSE
WARE-HOUSE
LEG-ACY DATA
COMMON SERVICES
REPOSITORY
SCHEDULER
USER PROFILES
OUTPUT SERVICES
METADATA MANAGER
MESSAGE QUEUE
FLOWABLE APPLICA-TIONS (DI-RECTIVES)
DI-RECTIVES
3D PARTY
ENACTMENT SERVICE
COORDINA-TION
MANAGE-MENT
DESIGNER INTER-FACES
PORTAL
SE-QUENCER
MEDIA DISTRIBU-TION
ADMINISTRATION AND MONITORING APPLICATIONS

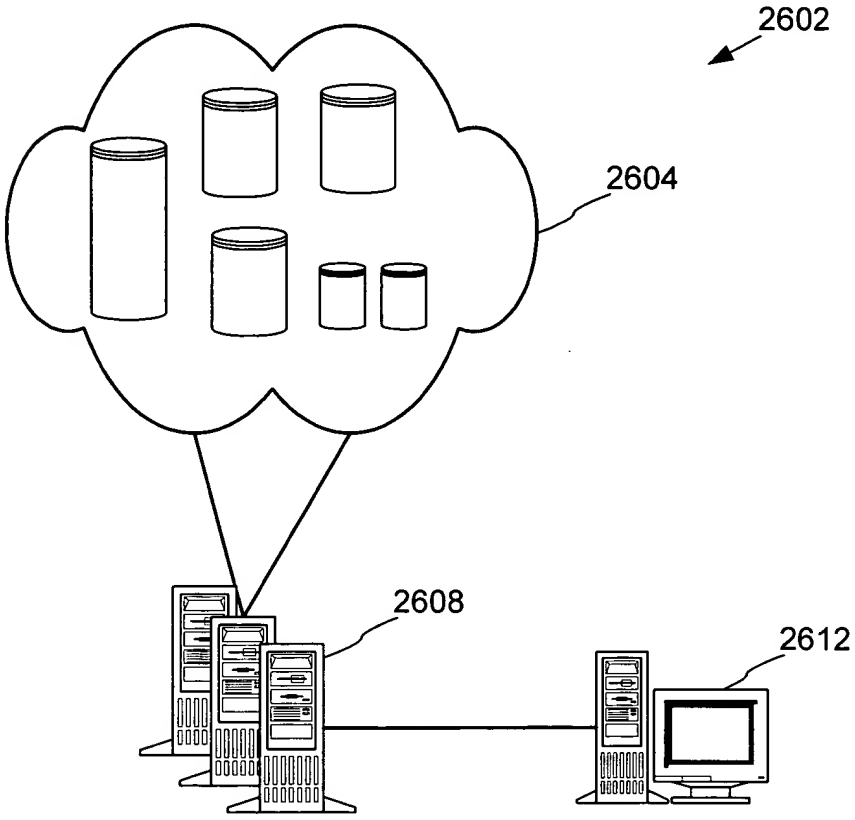



FIG. 26